Philips Semiconductors

CONCISE CATALOGUE 1996

Philips
Semiconductors

PHILIPS

QUALITY ASSURED

Our quality system focuses on the continuing high quality of our components and the best possible service for our customers. We have a three-sided quality strategy: we apply a system of total quality control and assurance; we operate customer-oriented dynamic improvement programmes; and we promote a partnering relationship with our customers and suppliers.

PRODUCT SAFETY

In striving for state-of-the-art perfection, we continuously improve components and processes with respect to environmental demands. Our components offer no hazard to the environment in normal use when operated or stored within the limits specified in the data sheet.

Some components unavoidably contain substances that, if exposed by accident or misuse, are potentially hazardous to health. Users of these components are informed of the danger by warning notices in the data sheets supporting the components. Where necessary the warning notices also indicate safety precautions to be taken and disposal instructions to be followed. Obviously users of these components, in general the set-making industry, assume responsibility towards the consumer with respect to safety matters and environmental demands.

All used or obsolete components should be disposed of according to the regulations applying at the disposal location. Depending on the location, electronic components are considered to be 'chemical', 'special' or sometimes 'industrial' waste. Disposal as domestic waste is usually not permitted.

Philips Semiconductors

Concise Catalogue
1996

Philips Semiconductors and Philips Electronics North America Corporation reserve the right to make changes, without notice, in the products, including circuits, standard cells, and/or software, described or contained herein in order to improve design and/or performance. Philips Semiconductors assumes no responsibility or liability for the use of any of these products, conveys no license or title under any patent, copyright, or mask work right to these products, and makes no representations or warranties that these products are free from patent, copyright, or mask work infringement, unless otherwise specified. Applications that are described herein for any of these products are for illustrative purposes only. Philips Semiconductors makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.

LIFE SUPPORT APPLICATIONS
Philips Semiconductors and Philips Electronics North America Corporation Products are not designed for use in life support appliances, devices, or systems where malfunction of a Philips Semiconductors and North American Philips Corporation Product can reasonably be expected to result in a personal injury. Philips Semiconductors and Philips Electronics North America Corporation custumers using or selling Philips Semiconductors and Philips Electronics North America Corporation Products for use in such applications do so at their own risk and agree to fully indemnify Philips Semiconductors and Philips Electronics North America Corporation for any damages resulting from such improper use or sale.

Philips Semiconductors and Philips Electronics North America Corporation
registers eligible circuits under the Semiconductor Chip Protection Act

© Copyright Philips Electronics North America Corporation 1996

All rights reserved

Table of contents

1. General information

Preface 1–4
Data handbook system 1–5

2. Index

Integrated circuits 2–5
Discrete semiconductors 2–61
Circulators and Isolators 2–102
High-power klystrons 2–103
Semiconductor sensors 2–104

3. **Integrated circuits** (contents) 3-3
Product information 3–7
Packing quantities 3–110
Competitive cross-reference guide 3–113
Package outlines 3–121

4. **Discrete semiconductors** (contents) 4-3
Small-signal transistors & diodes & medium-power rectifiers 4–5
Power semiconductors 4–73
RF & microwave semiconductors & modules 4–84
Marking codes for small devices 4–138
Competitive cross-reference guide 4–158
Packing quantities 4–231
Package outlines 4–236

5. **Circulators and Isolators** (contents) 5-3
Product information 5–5
Package outlines 5–10

6. **High-power klystrons** (contents) 6-3
Product information 6–4

7. **Semiconductor sensors** (contents) 7-3
Product information 7–4
Package outlines 7–8

1
2
3
4
5
6
7

General Information

1

CONTENTS

page

Preface 1–4

Data handbook system 1–5

PREFACE

The standard type range

This Concise Catalogue will provide you with a compact, handy reference to the Philips Semiconductors standard range of integrated circuits and discrete semiconductors, offered for sale through our extensive and worldwide network of National Sales Organizations. We recommend that you consult with your local Philips Semiconductors sales organization for information regarding full data, price and availability of these products.

The Philips Data Handbook System

For complete specifications of the components listed in this catalogue, please refer to the relevant volume of the Philips data handbook, which is indicated in the alphanumerical index of this catalogue. A complete list of the Philips integrated circuit and discrete semiconductor handbooks appears on next page of this catalogue.

The Philips data handbook system comprises more than 65 books, classified into six series:

- Integrated Circuits
- Discrete Semiconductors
- Display Components
- Passive Components
- Professional Components
- Magnetic Products

Data handbooks contain all pertinent data available at the time of publication and each is revised and reissued regularly. Loose data sheets are sent to subscribers to keep them up-to-date on additions and alterations made during the lifetime of a data handbook. Catalogues are available for selected product ranges (some catalogues are also available on floppy disks).

More information from Philips Semiconductors?

For more information about Philips Semiconductors data handbooks, catalogues and subscriptions, contact your local Philips Semiconductors sales organization listed on the back cover of this catalogue. Product specialists are at your service and enquiries are answered promptly.

DATA HANDBOOK SYSTEM

In the alphanumeric index (Section 2), reference is made to Philips Semiconductors' data sheets or data handbooks. These data handbooks contain all pertinent data available at the time of publication and each is revised and reissued regularly.

Loose data sheets are sent to subscribers to keep them up-to-date on additions or alterations made during the lifetime of a data handbook

Catalogues are available for selected product ranges; some catalogues are also on floppy disks.

For more information about Philips Semiconductors handbooks, catalogues and subscriptions contact your nearest Philips Semiconductors national organization listed on the back cover of this catalogue.

For this catalogue, the following data handbooks are of interest:

Integrated Circuits handbook series

book	title
IC01	Semiconductors for Radio and Audio Systems
IC02	Semiconductors for Television and Video Systems
IC03	Semiconductors for Telecom Systems
IC04	CMOS HE4000B Logic Family
IC06	High-speed CMOS Logic Family
IC11	General-purpose/Linear ICs
IC12	I^{2}C Peripherals
IC13	Programmable Logic Devices (PLD)
IC14	8048-based 8-bit Microcontrollers
IC15	FAST TTL Logic Series
IC16	CMOS Integrated Circuits for Clocks and Watches
IC17	Wireless Communications
IC18	Semiconductors for In-Car Electronics (planned)
IC19	ICs for Data Communications
IC20	80C51-based 8-bit Microcontrollers
IC22	Desktop Video
IC23	QUBiC Advanced BiCMOS Interface Logic ABT, MULTIBYTE™
IC24	Low Voltage CMOS & BiCMOS Logic
IC25	16-bit 80C51XA Microcontrollers (eXtended Architecture)

Discrete Semiconductors handbook series

book	title
SC01	Diodes
SC02	Power Diodes
SC03	Thyristors and Triacs
SC04	Small-signal Transistors
SC05	Low-frequency Power Transistors and Modules for Monitors
SC06	High-voltage and Switching NPN Power Transistors
SC07	Small-signal Field-effect Transistors
SC08a	RF Power Transistors for HF and VHF
SC08b	RF Power Transistors for UHF
SC09	RF Power Modules
SC10	Surface Mounted Semiconductors
SC13	PowerMOS Transistors including TOPFETs and IGBTs
SC14	RF Wideband Transistors
SC15	Microwave Transistors
SC16	Wideband Hybrid IC Modules
SC17	Semiconductor Sensors

Professional Components handbook series (selection)

book	title
PC01	High-power Klystrons and Accessories
PC06	Circulators and Isolators

CONCISE CATALOGUE 1995

Alphanumeric index

Index 2

DATA SHEET AVAILABILITY (see column "Handbook")
ICxx, SCxx or PCxx: see Data Handbook
DS-xxxx: see loose-leaf Data Sheet
sales: contact your local Philips Sales Organization
for a copy of the most recent Data Sheet

CONCISE CATALOGUE 1995

Alphanumeric index

CONCISE CATALOGUE 1995

Alphanumeric index

CONTENTS

page

Integrated Circuits 2-5

Discrete Semiconductors 2-61

Circulators and Isolators 2-102

High-power Klystrons 2-103

Semiconductor Sensors 2-104

Alphanumeric index

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
INTEGRATED CIRCUITS					
10149	1024-bit ECL bipolar PROM (256x4)	CDIP16		sales	68
10149A	1024-bit ECL bipolar PROM (256x4)	CDIP16		sales	68
10H20EV8-4	ECL 10KH PAL-type device	CDIP24	PLCC28	IC13	66
74ABT00	Quad 2-input NAND gate	DIP14	SO14, SSOP14 TSSOP14	sales	57
74ABT02	Quad 2-input NOR gate	DIP14	SO14, SSOP14 TSSOP14	sales	57
74ABT04	Hex inverter	DIP14	SO14, SSOP14 TSSOP14	sales	57
74ABT08	Quad 2-input AND gate	DIP14	SO14, SSOP14 TSSOP14	sales	57
74ABT10	Triple 3-input NAND gate	DIP14	SO14, SSOP14 TSSOP14	sales	57
74ABT125	Quad buffer	DIP14	SO14, SSOP14 TSSOP14	IC23	57
74ABT126	Quad buffer	DIP14	SO14, SSOP14 TSSOP14	IC23	57
74ABT161543	16-bit latched transceiver		SSOP56, TSSOP56	DS-IC23	58
74ABT162240	16-bit inverter/buffer		SSOP48, TSSOP48	sales	57
74ABT162244	16-bit buffer/line driver		SSOP48, TSSOP48	sales	57
74ABT162245	16-bit transceiver			sales	58
74ABT16240	16-bit inverter/buffer		SSOP48, TSSOP48	sales	57
74ABT16240-1	16-bit buffer/line driver		SSOP48, TSSOP48	sales	57
74ABT16241	16-bit buffer		SSOP48, TSSOP48	sales	57
74ABT16244A	16-bit buffer/line driver		SSOP48, TSSOP48	DS-IC23	57
74ABT16244-1	16-bit buffer/line driver		SSOP48, TSSOP48	DS-IC23	57
74ABT16245B	16-bit transceiver		SSOP48, TSSOP48	sales	58
74ABT16245A-1	16-bit bus transceiver		SSOP48, TSSOP48	DS-IC23	58
74ABT162543	16-bit latched transceiver, dual enable		SSOP56, TSSOP56	sales	58
74ABT16273	16-bit D-type flip-flop with reset		SSOP48, TSSOP48	DS-IC23	57
74ABT16273A	16-bit D-type flip-flop with reset		SSOP48, TSSOP48	sales	57
74ABT16373B	16-bit transparant latch		SSOP48, TSSOP48	DS-IC23	57
74ABT16374B	16-bit D-type flip-flop		SSOP48, TSSOP48	DS-IC23	57
74ABT16500C	18-bit bus transceiver		SSOP56, TSSOP56	DS-IC23	58
74ABT16501A	18-bit bus transceiver		SSOP56, TSSOP56	DS-IC23	58
74ABT16543	16-bit latched transceiver, dual enable		SSOP56, TSSOP56	DS-IC23	58
74ABT16646	16-bit bus transceiver/register		SSOP56, TSSOP56	DS-IC23	58
74ABT16652	16-bit transceiver/register		SSOP56, TSSOP56	DS-IC23	58
74ABT16821A	20-bit bus interface register		SSOP56, TSSOP56	DS-IC23	57
74ABT16823A	18-bit bus interface register		SSOP56, TSSOP56	DS-IC23	57
74ABT16825A	16-bit bus interface register		SSOP56, TSSOP56	sales	57
74ABT16827A	20-bit buffer line driver		SSOP56, TSSOP56	sales	57
74ABT16841A	20-bit bus interface latch		SSOP56, TSSOP56	DS-IC23	57
74ABT16899	18-bit latch transceiver, 8-bit parity		SSOP56, TSSOP56	sales	58
74ABT16952A	16-bit registered transceiver		QFP52	sales	58
74ABT20	Dual 4-input NAND gate	DIP14	SO14, SSOP14 SSOP14	sales	57
74ABT2240	Octal inverting buffer	DIP20	SO20, SSOP20 TSSOP20	sales	57
74ABT2244	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	sales	57
74ABT2245	Octal transceiver with direction pin	DIP20	SO20, SSOP20 TSSOP20	sales	58

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74ABT240	Octal inverting buffer	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT240-1	See 74ABT2240	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT241	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT244	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT244-1	See 74ABT2244	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT245	Octal transceiver with direction pin	DIP20	SO20, SSOP20 TSSOP20	IC23	58
74ABT245-1	See 74ABT2245	DIP20	SO20, SSOP20 TSSOP20	IC23	58
74ABT273A	Octal D-type flip-flop	DIP20	SO20, SSOP20 TSSOP20	sales	57
74ABT2952	Octal registered transceiver	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT2953	Octal registered transceiver	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT32	Quad 2-input OR gate	DIP14	SO14, SSOP14 TSSOP14	sales	57
74ABT373A	Octal D-type transparent latch	DIP20	SO20, SSOP20 TSSOP20	sales	57
74ABT374A	Octal D-type flip-flop; pos.-edge trigg.	DIP20	SO20, SSOP20 TSSOP20	sales	57
74ABT377	Octal D-type flip-flop with enable	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT4764	Programmable DRAM controller		QFP100	sales	69
74ABT5074	Syn. dual D-type flip-flop/clock driver	DIP14	SO14, SSOP14 TSSOP14	sales	58
74ABT534	Octal D-type flip-flop, inverting	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT540	Octal buffer, inverting	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT541	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	IC23	57
74ABT543A	Octal latched transceiver, dual enable	DIP24	SO24, SSOP24 TSSOP24	sales	58
74ABT544	Octal latched transceiver, dual enable	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT573A	Octal D-type transparent latch	DIP20	SO20, SSOP20 TSSOP20	sales	57
74ABT574A	Octal D-type flip-flop	DIP20	SO20, SSOP20 TSSOP20	sales	57
74ABT620	Octal transceiver with dual enable	DIP20	SO20, SSOP20 TSSOP20	IC23	58
74ABT623	Octal transceiver with dual enable	DIP20	SO20, SSOP20 TSSOP20	IC23	58
74ABT640	Octal transceiver with direction pin	DIP20	SO20, SSOP20 TSSOP20	IC23	58
74ABT646A	Octal bus transceiver/register	DIP24	SO24, SSOP24 TSSOP24	sales	58
74ABT648	Octal bus transceiver/register	DIP24	SO24, SSOP24 TSSOP24	IC23	58

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
74ABT651	Octal transceiver/register	DIP24	SO24, SSOP24 TSSOP24	sales	58
74ABT652A	Octal bus transceiver/register	DIP24	SO24, SSOP24 TSSOP24	sales	58
74ABT657	Octal transceiver, parity gen./checker	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT74	Dual D-type flip-flop	DIP14	SO14, SSOP14 TSSOP14	sales	57
74ABT821	10-bit D-type flip-flop	DIP24	SO24, SSOP24 TSSOP24	IC23	57
74ABT823	9-bit D-type flip-flop, reset and enable	DIP24	SO24, SSOP24 TSSOP24	IC23	57
74ABT827	10-bit buffer/line driver	DIP24	SO24, SSOP24 TSSOP24	IC23	57
74ABT833	Octal transceiver, parity gen./check	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT841	10-bit bus interface latch	DIP24	SO24, SSOP24 TSSOP24	IC23	57
74ABT843	9-bit bus interface latch, set and reset	DIP24	SO24, SSOP24 TSSOP24	IC23	57
74ABT845	8-bit bus interface latch, set and reset	DIP24	SO24, SSOP24 TSSOP24	IC23	57
74ABT853	8-bit transc., 9-bit par. checker/gen.	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT861	10-bit bus transceiver	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT863	9-bit bus transceiver	DIP24	SO24, SSOP24 TSSOP24	IC23	58
74ABT899	9-bit dual latch tr., 8-b par. gen./chk	DIP28	SO28, PLCC28	IC23	58
74ALS00A	Quad 2-input NAND gate	DIP14	SO14	sales	62
74ALS02	Quad 2-input NOR gate	DIP14	SO14	sales	62
74ALS04B	Hex inverter	DIP14	SO14	sales	63
74ALS08	Quad 2-input AND gate	DIP14	SO14	sales	62
74ALS109A	Dual JK positive-edge trigg. flip-flop	DIP16	SO16	sales	62
74ALS10A	Triple 3-input NAND gate	DIP14	SO14	sales	62
74ALS112A	Dual JK negative-edge trigg. flip-flop	DIP16	SO16	sales	62
74ALS11A	Triple 3-input AND gate	DIP14	SO14	sales	62
74ALS138	3-line to 8-line decoder/demultiplexer	DIP16	SO16	sales	61
74ALS139	Dual 2-line to 4-line decoder/demux	DIP16	SO16	sales	61
74ALS151	8-line to 1-line multiplexer	DIP16	SO16	sales	63
74ALS153	Dual 4-line to 1-line multiplexer	DIP16	SO16	sales	63
74ALS157	Quad 2-input data selector/multiplexer	DIP16	SO16	sales	63
74ALS158	Quad 2-input data selector/multiplexer	DIP16	SO16	sales	63
74ALS161B	Synchronous 4-bit binary counter	DIP16	SO16	sales	60
74ALS163B	Synchronous 4-bit binary counter	DIP16	SO16	sales	60
74ALS164	8-bit serial-in/parallel-out shift reg.	DIP14	SO14	sales	64
74ALS174	Hex D-type flip-flop with reset	DIP16	SO16	sales	61
74ALS175	Quad D-type edge triggered flip-flop	DIP16	SO16	sales	61
74ALS191	Up/down binary counter	DIP16	SO16	sales	61
74ALS193	Synchr. presettable 4-bit binary counter	DIP16	SO16	sales	61
74ALS20A	Dual 4-input NAND gate	DIP14	SO14	sales	62
74ALS240A	Octal inverter buffer	DIP20	SO20	sales	60
74ALS240A-1	Octal inverter buffer	DIP20	SO20	sales	60
74ALS241A	Octal buffer	DIP20	SO20	sales	60
74ALS241A-1	Octal buffer	DIP20	SO20	sales	60
74ALS244A	Octal buffer	DIP20	SO20	sales	60

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74ALS244A-1	Octal buffer	DIP20	SO20	sales	60
74ALS245A	Octal bus transceiver	DIP20	SO20	sales	64
74ALS245A-1	Octal bus transceiver	DIP20	SO20	sales	64
74ALS251	8-line to 1-line multiplexer	DIP16	SO16	sales	63
74ALS253	Dual 4-line to 1-line multiplexer	DIP16	SO16	sales	63
74ALS257	Quad 2-input data selector/multiplexer	DIP16	SO16	sales	63
74ALS258	Quad 2-input data selector/multiplexer	DIP16	SO16	sales	63
74ALS27	Triple 3-input NOR gate	DIP14	SO14	sales	62
74ALS273	Octal D-type flip-flop with reset	DIP20	SO20	sales	61
74ALS30A	8-input NAND gate	DIP14	SO14	sales	62
74ALS32	Quad 2-input OR gate	DIP14	SO14	sales	62
74ALS373	Octal transparent latch	DIP20	SO20	sales	63
74ALS374	Octal D-type flip-flop	DIP20	SO20	sales	61
74ALS377	Octal D-type flip-flop with clock enable	DIP20	SO20	sales	61
74ALS38A	Quad 2-input NAND buffer	DIP14	SO14	sales	62
74ALS543	Octal registered transceiver	SDIP24	SO24	sales	64
74ALS543-1	Octal registered transceiver	SDIP24	SO24	sales	64
74ALS544	Octal registered transceiver	SDIP24	SO24	sales	64
74ALS544-1	Octal registered transceiver	SDIP24	SO24	sales	65
74ALS563A	Octal transparent latch	DIP20	SO20	sales	63
74ALS564A	Octal D-type flip-flop	DIP20	SO20	sales	61
74ALS573B	Octal transparent latch	DIP20	SO20	sales	63
74ALS574A	Octal D-type flip-flop	DIP20	SO20	sales	62
74ALS620A	Octal bus transceiver	DIP20	SO20	sales	65
74ALS620A-1	Octal bus transceiver	DIP20	SO20	sales	65
74ALS645A	Octal transceiver	DIP20	SO20	sales	65
74ALS645A-1	Octal transceiver	DIP20	SO20	sales	65
74ALS646	Octal bus transceiver and register	SDIP24	SO24	sales	65
74ALS646-1	Octal bus transceiver and register	SDIP24	SO24	sales	65
74ALS648	Octal bus transceiver and register	SDIP24	SO24	sales	65
74ALS648-1	Octal bus transceiver and register	SDIP24	SO24	sales	65
74ALS651	Octal transceiver and register	SDIP24	SO24	sales	65
74ALS651-1	Octal transceiver and register	SDIP24	SO24	sales	65
74ALS652	Octal transceiver and register	SDIP24	SO24	sales	65
74ALS652-1	Octal transceiver and register	SDIP24	SO24	sales	65
74ALS74A	Dual D-type edge-triggered flip-flop	DIP14	SO14	sales	61
74ALS86	Quad 2-input EXCLUSIVE-OR gate	DIP14	SO14	sales	62
74ALVC164245	16-bit dual-supply translating transc.		SSOP48, TSSOP48	IC24	30
74ALVCH162244	16-bit 30 Ω buffer/line driver		SSOP48, TSSOP48	IC24	27
74ALVCH162245	16-bit 30 Ω bus transc. with dir. pin		SSOP48, TSSOP48	IC24	30
74ALVCH16240	16-bit buffer/line driver		SSOP48, TSSOP48	IC24	27
74ALVCH16241	16-bit buffer/line driver		SSOP48, TSSOP48	IC24	27
74ALVCH16244	16-bit buffer/line driver		SSOP48, TSSOP48	IC24	27
74ALVCH16245	16-bit bus transceiver with dir. pin		SSOP48, TSSOP48	IC24	30
74ALVCH16373	16-bit D-type transparant latch		SSOP48, TSSOP48	IC24	28
74ALVCH16374	16-bit edge triggered D-type flip-flop		SSOP48, TSSOP48	IC24	28
74ALVCH16470	16-bit registered transceiver		SSOP56, TSSOP56	sales	30
74ALVCH16500	18-bit universal bus transceiver		SSOP56, TSSOP56	IC24	30
74ALVCH16501	18-bit universal bus transceiver		SSOP56, TSSOP56	IC24	30
74ALVCH16540	16-bit buffer/line driver		TSSOP48	IC24	28
74ALVCH16541	16-bit buffer/line driver		TSSOP48	IC24	28
74ALVCH16543	16-bit D-type registered transceiver		SSOP56, TSSOP56	IC24	30
74ALVCH16600	18-bit universal bus transceiver		SSOP56, TSSOP56	IC24	30
74ALVCH16601	18-bit universal bus transceiver		SSOP56, TSSOP56	IC24	30
74ALVCH16623	16-bit transceiver with dual enable		SSOP48, TSSOP48	IC24	30
74ALVCH16646	16-bit bus transceiver/register		SSOP56, TSSOP56	IC24	30

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74ALVCH16652	16-bit transc./register with dual enable		SSOP56, TSSOP56	IC24	30
74ALVCH16952	16-bit registered transceiver		SSOP56, TSSOP56	IC24	30
74HC00	Quad 2-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC02	Quad 2-input NOR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC03	Quad 2-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC04	Hex inverter	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC08	Quad 2-input AND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC10	Triple 3-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC107	Dual JK flip-flop with reset	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC109	Dual JK flip-flop with set and reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC11	Triple 3-input AND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC112	Dual JK flip-flop with set and reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC123	Dual retriggerable monovib with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC125	Quad buffer/line driver	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HC126	Quad buffer/line driver	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HC132	Quad 2-input NAND Schmitt trigger	DIP14	SO14, SSOP14, TSSOP14	IC06	48, 49
74HC133	13-input NAND gate	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC137	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC138	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC139	Dual 2-to-4 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC14	Hex inverting Schmitt trigger	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HC147	10-to-4 line priority encoder	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC151	8-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC153	Dual 4-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC154	4-to-16 line decoder/demultiplexer	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	47
74HC157	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC158	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC160	Preset. synchr. BCD decade counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC161	Preset. synchr. 4-bit binary counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HC162	Preset. synchr. BCD decade counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC163	Preset. synchr. 4-bit binary counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC164	8-bit serial-in/parallel-out shift reg.	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HC165	8-bit serial-in/parallel-out shift reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC166	8-bit serial-in/parallel-out shift reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC173	Quad D-type flip-flop	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC174	Hex D-type flip-flop with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC175	Quad D-type flip-flop with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC181	4-bit arithmetic logic unit	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	46
74HC182	Look-ahead carry generator	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC190	Preset. syn. BCD decade up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC191	Preset. syn. 4-bit binary up/down cnt.	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC192	Preset. syn. BCD decade up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC193	Preset. syn. 4-bit binary up/down cnt.	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC194	4-bit bidir. universal shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC195	4-bit parallel access shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC20	Dual 4-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC21	Dual 4-input AND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC221	Dual non-retrig. monovib with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC237	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC238	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC240	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HC241	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HC242	Quad bus transceiver	DIP14	SO14, SSOP14, TSSOP14	IC06	50
74HC243	Quad bus transceiver	DIP14	SO14, SSOP14, TSSOP14	IC06	50
74HC244	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HC245	Octal bus transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	50
74HC251	8-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48

type number	description	package through-hole	SMD	hand book	page 3–
74HC253	Dual 4-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC257	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC258	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC259	8-bit addressable latch	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC27	Triple 3-input NOR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC273	Octal D-type flip-flop with reset	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC280	9-bit odd/even parity generator/checker	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HC283	4-bit binary full adder with fast carry	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC297	Digital phase-locked-loop filter	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC299	8-bit universal shift register	DIP20	SO20, SSOP20, TSSOP20	IC06	49
74HC30	8-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC32	Quad 2-input OR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC354	8-input mux/register with latches	DIP20	SO20, SSOP20, TSSOP20	IC06	48, 49
74HC356	8-input multiplexer/register	DIP20	SO20, SSOP20, TSSOP20	IC06	48, 49
74HC365	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC366	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC367	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC368	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC373	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC374	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC377	Octal D-type flip-flop with data enab.	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC390	Dual decade ripple counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC393	Dual 4-bit binary ripple counter	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HC4002	Dual 4-input NOR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC40102	8-bit synchronous BCD down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC40103	8-bit synchronous binary down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC40104	4-bit bidir. universal shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC40105	4-bit x 16 word FIFO register	DIP16	SO16, SSOP16, TSSOP16	IC06	49

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HC4015	Dual 4-bit ser.-in/par.-out shift reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC4016	Quad bilateral switches	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HC4017	Johnson dec. counter with 10 decoded o/p	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4020	14-stage binary ripple counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4024	7-stage binary ripple counter	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HC4040	12-stage binary ripple counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4046A	Phase-locked loop with VCO	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC4049	Hex inverting HIGH-to-LOW level shifter	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC4050	Hex HIGH-to-LOW level shifter	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC4051	8-channel analog mux/demux	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC4052	Dual 4-channel analog mux/demux	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC4053	Triple 2-channel analog mux/demux	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC4059	Programmable divide-by-n counter	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	46
74HC4060	14-stage binary ripple counter with osc.	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4066	Quad bilateral switches	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HC4067	16-channel analog mux/demux	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	48
74HC4075	Triple 3-input OR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC4094	8-stage shift-and-store bus register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC42	BCD to decimal decoder (1-of-10)	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC423	Dual retriggerable monovib with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC4316	Quad bilateral switches	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC4351	8-channel analog mux/demux with latch	DIP20	SO20, SSOP20, TSSOP20	IC06	48
74HC4352	Dual 4-channel an. mux/demux with latch	DIP20	SO20, SSOP20, TSSOP20	IC06	48
74HC4353	Triple 2-channel an. mux/demux w. latch	DIP20	SO20, SSOP20, TSSOP20	IC06	48
74HC4510	BCD up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4511	BCD to 7-segment latch/decoder/driver	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC4514	4-to-16 line decoder/demultiplexer	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	47
74HC4515	4-to-16 line decoder/demultiplexer	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	47

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HC4516	Binary up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4518	Dual synchronous BCD counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4520	Dual synchronous 4-bit binary counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC4538	Dual retriggerable precision monovib	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC4543	BCD-to-7 segm. latch/dec./dr. for LCDs	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HC533	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC534	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC540	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HC541	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HC5555	Programmable delay timer with oscillator	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC563	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC564	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC573	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC574	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HC58	Dual AND-OR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC583	4-bit full adder with fast carry	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC594	8-bit shift register with output reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC595	8-bit ser.-in/ser. or par.-out sh. reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC597	8-bit shift register with input latches	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC6323A	Programmable ripple counter with osc.		SO8	IC06	46
74HC640	Octal bus transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	50
74HC643	Octal bus transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	50
74HC646	Octal bus transceiver/register	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	50
74HC648	Octal bus transceiver/register	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	50
74HC652	Octal registered bus transceiver	DIP24	SO24, SSOP24, TSSOP24	IC06	50
74HC670	4 x 4 register file	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC688	8-bit magnitude comparator	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HC7014	Hex inverting Schmitt trigger	DIP14	SO14, SSOP14, TSSOP14	IC06	49

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HC7030	9-bit x 64-word FIFO register	DIP28	SO28, SSOP28, TSSOP28	IC06	49
74HC7046A	PLL with lock detector	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC7080	16-bit even/odd parity gen./checker	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HC7132	Quad adj. precision Schmitt trigger	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HC7245	Octal bus Schmitt trigger transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	49, 50
74HC7266	Quad 2-input EXCLUSIVE-NOR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HC73	Dual JK flip-flop with reset	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC74	Dual D-type flip-flop with set and reset	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC7403	4-bit x 64-word FIFO register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC7404	5-bit x 64-word FIFO register	DIP18	SO20, SSOP20, TSSOP20	IC06	49
74HC75	Quad bistable transparent latch	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HC7540	Octal Schmitt trigger buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HC7541	Octal Schmitt trigger buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HC7597	8-bit shift register with input latches	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC7731	Quad 64-bit static shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HC85	4-bit magnitude comparator	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HC86	Quad 2-input EXCLUSIVE-OR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HC9014	Nine-wide Schmitt trig. buf./line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HC9015	Nine-wide Schmitt trig. buf./line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HC9114	Nine-wide Schmitt trigger buffer	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HC9115	Nine-wide Schmitt trigger buffer	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HC93	4-bit binary ripple counter	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HCT02	Quad 2-input NOR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT03	Quad 2-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT04	Hex inverter	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT08	Quad 2-input AND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HCT10	Tiple 3-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT107	Dual JK flip-flop with reset	DIP14	SO14, SSOP14, TSSOP14	IC06	47

type number	description	package		hand book	page 3–
		through-hole	SMD		
74HCT109	Dual JK flip-flop with set and reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT11	Triple 3-input AND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HCT112	Dual JK flip-flop with set and reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT123	Dual retriggerable monovib with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT125	Quad buffer/line driver	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HCT126	Quad buffer/line driver	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HCT132	Quad 2-input NAND Schmitt trigger	DIP14	SO14, SSOP14, TSSOP14	IC06	48, 49
74HCT133	13-input NAND gate	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT137	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT138	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT139	Dual 2-to-4 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT14	Hex inverting Schmitt trigger	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HCT147	10-to-4 line priority encoder	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT151	8-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT153	Dual 4-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT154	4-to-16 line decoder/demultiplexer	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	47
74HCT157	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT158	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT160	Preset. synchr. BCD decade counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT161	Preset. synchr. 4-bit binary counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT162	Preset. synchr. BCD decade counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT163	Preset. synchr. 4-bit binary counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT164	8-bit serial-in/parallel-out shift reg.	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HCT165	8-bit serial-in/parallel-out shift reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT166	8-bit serial-in/parallel-out shift reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT173	Quad D-type flip-flop	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT174	Hex D-type flip-flop with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT175	Quad D-type flip-flop with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	47

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HCT181	4-bit arithmetic logic unit	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	46
74HCT182	Look-ahead carry generator	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT190	Preset. syn. BCD decade up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT191	Preset. syn. 4-bit binary up/down cnt.	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT192	Preset. syn. BCD decade up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT193	Preset. syn. 4-bit binary up/down cnt.	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT194	4-bit bidir. universal shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT195	4-bit parallel access shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT20	Dual 4-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT21	Dual 4-input AND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HCT221	Dual non-retrig. monovib with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT237	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT238	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT240	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HCT241	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HCT242	Quad bus transceiver	DIP14	SO14, SSOP14, TSSOP14	IC06	50
74HCT243	Quad bus transceiver	DIP14	SO14, SSOP14, TSSOP14	IC06	50
74HCT244	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HCT245	Octal bus transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	50
74HCT251	8-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT253	Dual 4-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT257	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT258	Quad 2-input multiplexer	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT259	8-bit addressable latch	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT27	Triple 3-input NOR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT273	Octal D-type flip-flop with reset	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT280	9-bit odd/even parity generator/checker	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HCT283	4-bit binary full adder with fast carry	DIP16	SO16, SSOP16, TSSOP16	IC06	46

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HCT297	Digital phase-locked-loop filter	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT299	8-bit universal shift register	DIP20	SO20, SSOP20, TSSOP20	IC06	49
74HCT30	8-input NAND gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT32	Quad 2-input OR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT354	8-input mux/register with latches	DIP20	SO20, SSOP20, TSSOP20	IC06	48, 49
74HCT356	8-input multiplexer/register	DIP20	SO20, SSOP20, TSSOP20	IC06	48, 49
74HCT365	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT366	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT367	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT368	Hex buffer/line driver	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT373	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT374	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT377	Octal D-type flip-flop with data enable	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT390	Dual decade ripple counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT393	Dual 4-bit binary ripple counter	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HCT4002	Dual 4-input NOR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT40102	8-bit synchronous BCD down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT40103	8-bit synchronous binary down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT40104	4-bit bidir. universal shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT40105	4-bit x 16 word FIFO register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT4015	Dual 4-bit ser.-in/par.-out shift reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT4016	Quad bilateral switches	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HCT4017	Johnson dec. counter with 10 decoded o/p	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4020	14-stage binary ripple counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4024	7-stage binary ripple counter	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HCT4040	12-stage binary ripple counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4046A	Phase-locked loop with VCO	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT4051	8-channel analog mux/demux	DIP16	SO16, SSOP16, TSSOP16	IC06	48

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HCT4052	Dual 4-channel analog mux/demux	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT4053	Triple 2-channel analog mux/demux	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT4059	Programmable divide-by-n counter	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	46
74HCT4060	14-stage binary ripple counter with osc.	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4066	Quad bilateral switches	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HCT4067	16-channel analog mux/demux	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	48
74HCT4075	Triple 3-input OR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	48
74HCT4094	8-stage shift-and-store bus register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT42	DCD to decimal decoder (1-of-10)	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT423	Dual retriggerable monovib with reset	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT4316	Quad bilateral switches	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT4351	8-channel analog mux/demux with latch	DIP20	SO20, SSOP20, TSSOP20	IC06	48
74HCT4352	Dual 4-chan. an. mux/demux with latch	DIP20	SO20, SSOP20, TSSOP20	IC06	48
74HCT4353	Triple 2-chan. an. mux/demux with latch	DIP20	SO20, SSOP20, TSSOP20	IC06	48
74HCT4510	BCD up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4511	BCD to 7-segment latch/decoder/driver	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT4514	4-to-16 line decoder/demultiplexer	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	47
74HCT4515	4-to-16 line decoder/demultiplexer	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	47
74HCT4516	Binary up/down counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4518	Dual synchronous BCD counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4520	Dual synchronous 4-bit binary counter	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT4538	Dual retriggerable precision monovib	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT4543	BCD-to-7 segm. latch/dec./dr. for LCDs	DIP16	SO16, SSOP16, TSSOP16	IC06	47
74HCT533	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT534	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT540	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HCT541	Octal buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HCT5555	Programmable delay timer with oscillator	DIP16	SO16, SSOP16, TSSOP16	IC06	49

type number	description	package through-hole	SMD	hand book	page 3–
74HCT563	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT564	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT573	Octal D-type transparent latch	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT574	Octal D-type flip-flop	DIP20	SO20, SSOP20, TSSOP20	IC06	47
74HCT583	4-bit full adder with fast carry	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT594	8-bit shift register with output reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT595	8-bit ser.-in/ser. or par.-out sh. reg.	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT597	8-bit shift register with input latches	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT6323A	Programmable ripple counter with osc.		SO8	IC06	46
74HCT640	Octal bus transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	50
74HCT643	Octal bus transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	50
74HCT646	Octal bus transceiver/register	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	50
74HCT648	Octal bus transceiver/register	DIP24, SDIP24	SO24, SSOP24, TSSOP24	IC06	50
74HCT652	Octal registered bus transceiver	DIP24	SO24, SSOP24, TSSOP24	IC06	50
74HCT670	4 x 4 register file	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT688	8-bit magnitude comparator	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HCT7030	9-bit x 64-word FIFO register	DIP28	SO28, SSOP28, TSSOP28	IC06	49
74HCT7046A	PLL with lock detector	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT7080	16-bit even/odd parity generator/checker	DIP20	SO20, SSOP20, TSSOP20	IC06	46
74HCT7132	Quad adj. precision Schmitt trigger	DIP14	SO14, SSOP14, TSSOP14	IC06	49
74HCT7245	Octal bus Schmitt trigger transceiver	DIP20	SO20, SSOP20, TSSOP20	IC06	49, 50
74HCT73	Dual JK flip-flop with reset	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HCT74	Dual D-type flip-flop with set and reset	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HCT7403	4-bit x 64-word FIFO register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT7404	5-bit x 64-word FIFO register	DIP18	SO20, SSOP20, TSSOP20	IC06	49
74HCT75	Quad bistable transparent latch	DIP16	SO16, SSOP16, TSSOP16	IC06	48
74HCT7540	Octal Schmitt trigger buffer/line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HCT7541	Octal Schmitt trigger buffer/line drive	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74HCT7597	8-bit shift register with input latches	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT7731	Quad 64-bit static shift register	DIP16	SO16, SSOP16, TSSOP16	IC06	49
74HCT85	4-bit magnitude comparator	DIP16	SO16, SSOP16, TSSOP16	IC06	46
74HCT86	Quad 2-input EXCLUSIVE-OR gate	DIP14	SO14, SSOP14, TSSOP14	IC06	47
74HCT9014	Nine-wide Schmitt trig. buf./line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HCT9015	Nine-wide Schmitt trig. buf./line driver	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HCT9046A	PLL with bandgap controlled VCO	DIP16	SO16, SSOP16, TSSOP16	DS-IC06	49
74HCT9114	Nine-wide Schmitt trigger buffer	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HCT9115	Nine-wide Schmitt trigger buffer	DIP20	SO20, SSOP20, TSSOP20	IC06	46, 49
74HCT93	4-bit binary ripple counter	DIP14	SO14, SSOP14, TSSOP14	IC06	46
74HL33240	Octal buffer/line driver		SO24, SSOP24 TSSOP24	IC24	27
74HL33241	Octal buffer/line driver		SO24, SSOP24 TSSOP24	IC24	27
74HL33244	Octal buffer/line driver		SO24, SSOP24 TSSOP24	IC24	27
74HL33245	Octal bus transceiver		SO24, SSOP24 TSSOP24	IC24	30
74HL33373	Octal D-type transparent latch		SO24, SSOP24 TSSOP24	IC24	28
74HL33374	Octal D-type flip-flop		SO24, SSOP24 TSSOP24	IC24	28
74HL33533	Octal D-type transparent latch		SO24, SSOP24 TSSOP24	IC24	28
74HL33534	Octal D-type flip-flop		SO24, SSOP24 TSSOP24	IC24	28
74HL33620	Octal bus transceiver		SO24, SSOP24 TSSOP24	IC24	30
74HL33623	Octal bus transceiver		SO24, SSOP24 TSSOP24	IC24	30
74HL33640	Octal bus transceiver		SO24, SSOP24 TSSOP24	IC24	30
74HL33646	Octal bus transceiver/register		SO28, SSOP28 TSSOP28	IC24	30
74HL33648	Octal bus transceiver/register		SO28, SSOP28 TSSOP28	IC24	30
74HL33651	Octal transceiver/register		SO28, SSOP28 TSSOP28	IC24	30
74HL33652	Octal transceiver/register		SO28, SSOP28 TSSOP28	IC24	30
74HL33952	Octal registered transceiver		SO28, SSOP28 TSSOP28	IC24	30
74HL33953	Octal registered transceiver		SO28, SSOP28 TSSOP28	IC24	30
74LV00	Quad 2-input NAND gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27

type number	description	package through-hole	SMD	hand book	page 3–
74LV02	Quad 2-input NOR gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV03	Quad 2-input NAND gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV04	Hex inverter	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV08	Quad 2-input AND gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV10	Triple 3-input NAND gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV107	Dual JK flip-flop with reset	DIP14	SO14, SSOP14 TSSOP14	IC24	28
74LV109	Dual JK flip-flop with set and reset	DIP16	SO16, SSOP16 TSSOP16	IC24	28
74LV11	Triple 3-input AND gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV123	Dual retriggerable monovib with reset	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV125	Quad buffer/line driver	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV126	Quad buffer/line driver	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV132	Quad 2-input NAND Schmitt trigger	DIP14	SO14, SSOP14 TSSOP14	IC24	29
74LV138	3-to-8 line decoder/demultiplexer	DIP16	SO16, SSOP16 TSSOP16	IC24	28
74LV139	Dual 2-to-4 line decoder/demultiplexer	DIP16	SO16, SSOP16 TSSOP16	IC24	28
74LV14	Hex inverting Schmitt trigger	DIP14	SO14, SSOP14 TSSOP14	IC24	29
74LV153	Dual 4-input multiplexer	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV154	4-to-16 line decoder/demultiplexer	DIP24	SO24, SSOP24 TSSOP24	IC24	28
74LV157	Quad 2-input multiplexer	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV161	Pres. synchr. 4-bit binary counter	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV163	Pres. synchr. 4-bit binary counter	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV164	8-bit serial-in/parallel-out shift reg.	DIP14	SO14, SSOP14 TSSOP14	IC24	29
74LV165	8-bit par.in/ser.out shift register	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV174	Hex D-type flip-flop with reset	DIP16	SO16, SSOP16 TSSOP16	IC24	28
74LV175	Quad D-type flip-flop with reset	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV191	Pres. synchr. 4-bit binary up/down cntr.	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV193	Pres. synchr. 4-bit binary up/down cntr.	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV20	Dual 4-input NAND gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV240	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	IC24	27

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74LV241	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	IC24	27
74LV244	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	IC24	27
74LV245	Octal bus transceiver	DIP20	SO20, SSOP20 TSSOP20	IC24	30
74LV251	8-input multiplexer	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV257	Quad 2-input multiplexer	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV259	8-bit addressable latch	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV27	Triple 3-input NOR gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV273	Octal D-type flip-flop with reset	DIP20	SO20, SSOP20 TSSOP20	IC24	28
74LV32	Quad 2-input OR gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LV365	Hex buffer/line driver	DIP16	SO16, SSOP16 TSSOP16	IC24	28
74LV367	Hex buffer/line driver	DIP16	SO16, SSOP16 TSSOP16	IC24	28
74LV368	Hex inverter	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV373	Octal D-type transparent latch	DIP20	SO20, SSOP20 TSSOP20	IC24	28
74LV374	Octal D-type flip-flop	DIP20	SO20, SSOP20 TSSOP20	IC24	28
74LV377	Octal D-type flip-flop with data enable	DIP20	SO20, SSOP20 TSSOP20	IC24	28
74LV393	Dual 4-bit binary ripple counter	DIP14	SO14, SSOP14 TSSOP14	IC24	28
74LV4020	14-stage binary ripple counter	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV4040	12-stage binary ripple counter	DIP16	SO16, SSOP16 TSSOP16	sales	28
74LV4051	8-channel analog multiplexer/demux	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV4052	Dual 4-channel analog multiplexer/demux	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV4053	Triple 2-channel analog mux/demux	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV4060	14-stage binary ripple counter with osc.	DIP16	SO16, SSOP16 TSSOP16	IC24	28
74LV4066	Quad bilateral switches	DIP14	SO14, SSOP14 TSSOP14	IC24	29
74LV4067	16-channel analog multiplexer/demultipl.	DIP24	SO24, SSOP24 TSSOP24	sales	29
74LV4094	8-stage shift-and-store bus register	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV4316	Quad bilateral switches	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV4799	NiMH battery management circuit	DIP14	SO16, SSOP16 TSSOP16	IC24	30, 82
74LV541	Octal buffer/line driver	DIP20	SO20, SSOP20 TSSOP20	IC24	28

type number	description	package through-hole	SMD	hand book	page 3–
74LV573	Octal D-type transparent latch	DIP20	SO20, SSOP20 TSSOP20	IC24	28
74LV574	Octal D-type flip-flop	DIP20	SO20, SSOP20 TSSOP20	IC24	28
74LV595	8-bit ser.in/ser.out or par-out sh. reg.	DIP16	SO16, SSOP16 TSSOP16	IC24	29
74LV74	Dual D-type flip-flop with set and reset	DIP14	SO14, SSOP14 TSSOP14	IC24	28
74LV86	Quad 2-input EXCLUSIVE-OR gate	DIP14	SO14, SSOP14 TSSOP14	IC24	27
74LVC00	Quad 2-input NAND gate		SO14, SSOP14 TSSOP14	IC24	27
74LVC02	Quad 2-input NOR gate		SO14, SSOP14 TSSOP14	IC24	27
74LVC04	Hex inverter		SO14, SSOP14 TSSOP14	IC24	27
74LVC08	Quad 2-input AND gate		SO14, SSOP14 TSSOP14	IC24	27
74LVC10	Triple 3-input NAND gate		SO14, SSOP14 TSSOP14	sales	27
74LVC109	Dual JK flip-flop with set and reset		SO16, SSOP16 TSSOP16	IC24	28
74LVC11	Triple 3-input AND gate		SO14, SSOP14 TSSOP14	sales	27
74LVC125	Quad buffer/line driver		SO14, SSOP14 TSSOP14	IC24	27
74LVC126	Quad buffer		SO14, SSOP14 TSSOP14	sales	27
74LVC138	3-to-8 line decoder/demultiplexer		SO16, SSOP16 TSSOP16	IC24	28
74LVC139	Dual 2-to-4 line decoder/demultiplexer		SO16, SSOP16 TSSOP16	IC24	28
74LVC14	Hex inverter Schmitt trigger		SO14, SSOP14 TSSOP14	sales	29
74LVC153	Dual 4-to-1 multiplexer		SO16, SSOP16 TSSOP16	sales	29
74LVC157	Quad 2-input multiplexer		SO16, SSOP16 TSSOP16	IC24	29
74LVC158	Quad 2-to-1 data selector/multiplexer		SO16, SSOP16 TSSOP16	sales	29
74LVC162244	16-bit 30 Ω buffer/line driver		SSOP48, TSSOP48	sales	27
74LVC16240	16-bit buffer/line driver		SSOP48, TSSOP48	sales	27
74LVC16244	16-bit buffer		SSOP48, TSSOP48	sales	27
74LVC16245	16-bit bus transceiver with dir. pin		SSOP48, TSSOP48	sales	30
74LVC16373	16-bit D-type transparant latch		SSOP48, TSSOP48	sales	28
74LVC16374	16-bit edge triggered D-type flip-flop		SSOP48, TSSOP48	sales	28
74LVC191	Asynchronous pres. 4-bit up/down counter		SO16, SSOP16 TSSOP16	sales	28
74LVC193	Synchronous pres. 4-bit up/down counter		SO16, SSOP16 TSSOP16	sales	28
74LVC20	Dual 4-input NAND gate		SO14, SSOP14 TSSOP14	sales	27
74LVC2244	Octal buffer with series resistor		SO20, SSOP20 TSSOP20	sales	27
74LVC240	Octal buffer/line driver		SO20, SSOP20 TSSOP20	IC24	27

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
74LVC241	Octal buffer/line driver		SO20, SSOP20 TSSOP20	IC24	27
74LVC244	Octal buffer/line driver		SO20, SSOP20 TSSOP20	IC24	27
74LVC245	Octal bus transceiver		SO20, SSOP20 TSSOP20	IC24	30
74LVC257	Quad 2-input multiplexer		SO16, SSOP16 TSSOP16	IC24	29
74LVC258	Quad 2-to-1 data selector/multiplexer		SO16, SSOP16 TSSOP16	sales	29
74LVC259	Octal adressable latch		SO16, SSOP16 TSSOP16	sales	29
74LVC269	Synch. pres. 8-bit bidir. binary counter		SO24, SSOP24 TSSOP24	sales	28
74LVC27	Triple 3-input NOR gate		SO14, SSOP14 TSSOP14	sales	27
74LVC273	Octal D-type flip-flop		SO20, SSOP20 TSSOP20	sales	28
74LVC2952	8-bit transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVC30	8-input NAND gate		SO14, SSOP14 TSSOP14	sales	27
74LVC32	Quad 2-input OR gate		SO14, SSOP14 TSSOP14	IC24	27
74LVC373	Octal D-type transparent latch		SO20, SSOP20 TSSOP20	IC24	28
74LVC374	Octal D-type flip-flop		SO20, SSOP20 TSSOP20	IC24	28
74LVC377	Octal D-type flip-flop with enable		SO20, SSOP20 TSSOP20	sales	28
74LVC38	Quad 2-input NAND buffer		SO14, SSOP14 TSSOP14	IC24	27
74LVC40	Dual 4-input NAND buffer		SO14, SSOP14 TSSOP14	sales	27
74LVC4245	8-bit 3-5V level shifter transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVC51	Dual 2-wide 2-input AND-OR-INV gate		SO14, SSOP14 TSSOP14	sales	27
74LVC540	Octal buffer		SO20, SSOP20 TSSOP20	sales	28
74LVC541	Octal buffer		SO20, SSOP20 TSSOP20	sales	28
74LVC543	Octal registered transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVC544	Octal registered transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVC573	Octal D-type transparent latch		SO20, SSOP20 TSSOP20	IC24	28
74LVC574	Octal D-type flip-flop		SO20, SSOP20 TSSOP20	IC24	28
74LVC579	8-bit bidirectional binary counter		SO20, SSOP20 TSSOP20	sales	28
74LVC620	Octal transceiver		SO20, SSOP20 TSSOP20	sales	30
74LVC623	Octal bus transceiver		SO20, SSOP20 TSSOP20	IC24	30

type number	description	package through-hole	SMD	hand book	page 3–
74LVC640	Octal transceiver		SO24, SSOP24 TSSOP24	sales	30
74LVC646	Octal bus transceiver/register		SO24, SSOP24 TSSOP24	IC24	30
74LVC652	Octal registered bus transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVC74	Dual D-type flip-flop with set and reset		SO14, SSOP14 TSSOP14	IC24	28
74LVC821	10-bit bus interface register		SO24, SSOP24 TSSOP24	IC24	29
74LVC823	9-bit bus interface register		SO24, SSOP24 TSSOP24	IC24	29
74LVC825	Octal bus interface register		SO24, SSOP24 TSSOP24	sales	29
74LVC827	10-bit buffer line driver		SO24, SSOP24 TSSOP24	IC24	28
74LVC841	10-bit bus interface latch		SO24, SSOP24 TSSOP24	IC24	29
74LVC86	Quad 2-input EXCLUSIVE-OR gate		SO14, SSOP14 TSSOP14	IC24	27
74LVCU04	Hex inverter (unbuffered)		SO14, SSOP14 TSSOP14	sales	27
74LVT00	Quad 2-input NANd gate		SO14, SSOP14 TSSOP14	sales	27
74LVT02	Quad 2-input NOR gate		SO14, SSOP14 TSSOP14	sales	27
74LVT04	Hex inverter		SO14, SSOP14 TSSOP14	sales	27
74LVT08	Quad 2-input AND gate		SO14, SSOP14 TSSOP14	sales	27
74LVT10	Triple 3-input NAND gate		SO14, SSOP14 TSSOP14	sales	27
74LVT125	Quad buffer/line driver		SO14, SSOP14 TSSOP14	IC24	27
74LVT126	Quad buffer/line driver		SO14, SSOP14 TSSOP14	sales	27
74LVT162240A	16-bit 30 Ω buffer/line drivers		SSOP48, TSSOP48	IC24	27
74LVT162244B	16-bit 30 Ω buffer/line drivers		SSOP48, TSSOP48	IC24	27
74LVT162245B	16-bit 30 Ω bus transc. with dir. pin		SSOP48, TSSOP48	IC24	30
74LVT16240A	16-bit buffer/line drivers		SSOP48, TSSOP48	DS-IC24	27
74LVT16244B	16-bit buffer/line drivers		SSOP48, TSSOP48	DS-IC24	28
74LVT16245B	16-bit bus transceiver with dir. pin		SSOP48, TSSOP48	DS-IC24	30
74LVT16273A	16-bit D-type flip-flop		SSOP48, TSSOP48	IC24	28
74LVT16373A	16-bit D-type transparant latch		SSOP48, TSSOP48	DS-IC24	28
74LVT16374A	16-bit edge triggered D-type flip-flop		SSOP48, TSSOP48	DS-IC24	28
74LVT16500A	18-bit universal bus transceiver		SSOP56, TSSOP56	DS-IC24	30
74LVT16501A	18-bit universal bus transceiver		SSOP56, TSSOP56	DS-IC24	30
74LVT16541A	16-bit buffer/line driver		SSOP48, TSSOP48	IC24	28
74LVT16543A	16-bit registered transceiver		SSOP56, TSSOP56	DS-IC24	30
74LVT16646A	16-bit bus transceiver		SSOP56, TSSOP56	DS-IC24	30
74LVT16652A	16-bit transceiver/registers		SSOP56, TSSOP56	DS-IC24	30
74LVT16821A	20-bit bus interface register		SSOP56, TSSOP56	sales	29
74LVT16823A	18-bit bus interface register		SSOP56, TSSOP56	sales	29
74LVT16827A	20-bit buffer/line driver		SSOP56, TSSOP56	sales	28
74LVT16841A	20-bit bus interface latch		SSOP56, TSSOP56	sales	29
74LVT16899	16-bit latched transceiver		SSOP56, TSSOP56	sales	30

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
74LVT16952A	16-bit registered transceiver		SSOP56, TSSOP56	sales	30
74LVT20	Dual 4-input NAND gate		SO14, SSOP14 TSSOP14	sales	27
74LVT2245	Octal bus transceiver		SO20, SSOP20 TSSOP20	sales	30
74LVT240	Octal buffer/line driver		SO20, SSOP20 TSSOP20	IC24	27
74LVT244A	Octal buffer/line driver		SO20, SSOP20 TSSOP20	IC24	27
74LVT245	Octal bus transceiver with direction pin		SO20, SSOP20 TSSOP20	IC24	30
74LVT245-1	Octal bus transceiver		SO20, SSOP20 TSSOP20	sales	30
74LVT2543	Octal registered transceiver		SO24, SSOP24 TSSOP24	sales	30
74LVT273	Octal D-type flip-flop		SO20, SSOP20 TSSOP20	IC24	28
74LVT2952	Octal registered transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVT32	Quad 2-input OR gate		SO14, SSOP14 TSSOP14	sales	27
74LVT373	Octal D-type flip-flop		SO20, SSOP20 TSSOP20	sales	28
74LVT374	Octal D-type flip-flop		SO20, SSOP20 TSSOP20	sales	28
74LVT534	Octal D-type latch		SO20, SSOP20 TSSOP20	sales	28
74LVT543	Octal registered transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVT543-1	Octal registered transceiver		SO24, SSOP24 TSSOP24	sales	30
74LVT544	Octal registered transceiver		SO24, SSOP24 TSSOP24	sales	30
74LVT573	Octal D-type transparent latch		SO20, SSOP20 TSSOP20	IC24	28
74LVT574	Octal D-type flip-flop		SO20, SSOP20 TSSOP20	IC24	28
74LVT620	Octal bus transceiver		SO20, SSOP20 TSSOP20	sales	30
74LVT623	Octal bus transceiver		SO20, SSOP20 TSSOP20	sales	30
74LVT640	Octal bus transceiver		SO20, SSOP20 TSSOP20	sales	30
74LVT646	Octal bus transceiver/register		SO24, SSOP24 TSSOP24	IC24	30
74LVT651	Octal transceiver/register		SO24, SSOP24 TSSOP24	sales	30
74LVT652	Octal registered bus transceiver		SO24, SSOP24 TSSOP24	IC24	30
74LVT74	Dual D-type flip-flop		SO14, SSOP14 TSSOP14	sales	28
74LVT821	10-bit D-type flip-flop		SO24, SSOP24 TSSOP24	sales	29
74LVT821-1	10-bit D-type flip-flop		SO24, SSOP24 TSSOP24	sales	29

INTEGRATED CIRCUITS

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
74LVT823	9-bit D-type flip-flop with reset/enable		SO24, SSOP24 TSSOP24	sales	29
74LVT827	10-bit buffer/line driver		SO24, SSOP24 TSSOP24	sales	28
74LVT841	10-bit bus interface latch		SO24, SSOP24 TSSOP24	sales	29
74LVT843	9-bit bus interface latch with set/reset		SO24, SSOP24 TSSOP24	sales	29
74LVU04	Hex inverter (unbuffered)	DIP14	SO14, SSOP14 TSSOP14	IC24	27
ABT22V10A5	BiCMOS low-noise, high-drive PLD		PLCC28	sales	66
ABT22V10A7	BiCMOS low-noise, high-drive PLD		PLCC28	sales	66
ABT22V10-7	BiCMOS low-noise, high-drive PLD	DIP24	PLCC28, SO24	IC13	66
ADC0803-1C	8-bit CMOS ADC	DIP20	SO20	IC11	78
ADC0803-1LC	8-bit CMOS ADC	DIP20	SO20	IC11	78
ADC0804-1C	8-bit CMOS ADC	DIP20	SO20	IC11	78
ADC0804-1LC	8-bit CMOS ADC	DIP20	SO20	IC11	78
ADC0820	8-bit CMOS ADC	DIP20	SO20	IC11	78
AM26LS31	Quad high-speed differential line driver	DIP16	SO16	IC19	85
AM26LS32	Quad high-speed diff. line receivers	DIP16	SO16	IC19	85
AM26LS33	Quad high-speed diff. line receivers	DIP16	SO16	IC19	85
AM6012	12-bit multiplying DAC	CDIP20	SO20	IC11	78
AU2901	Quad voltage comparator	DIP14	SO14	IC11	78
AU2902	Quad low-power operational amplifier	DIP14	SO14	IC11	77
AU2903	Low-power dual voltage comparator	DIP8	SO8	IC11	78
AU2904	Dual low-power operational amplifier	DIP8	SO8	IC11	77
C3F189A	64-bit TTL bipolar RAM (16x4)		SO16L	sales	69
C3F219A	64-bit TTL bipolar RAM (16x4)		SO16L	sales	69
CGY2010	GSM 4 W power amplifier		LQFP48	IC17	87
CGY2030	DECT 0.6 W power amplifier		SSOP16M	IC17	87
DAC08	8-bit high-speed multiplying DAC	CDIP16		IC11	78
DAC08A	8-bit high-speed multiplying DAC	CDIP16		IC11	78
DAC08C	8-bit high-speed multiplying DAC	DIP16, CDIP16		IC11	78
DAC08E	8-bit high-speed multiplying DAC	DIP16, CDIP16	SO16	IC11	78
DAC08H	8-bit high-speed multiplying DAC	DIP16		IC11	78
DPC7131	PC-based MPEG1 video playback board			sales	108
DPC7145/46	PC-based (ISA) video capture board			sales	108
DPC7167	PC-based (PCI) video capture/MPEG playb.			sales	108
DTV7183	PAL/NTSC/SECAM decoder/encoder board			sales	108
FB2012A	Futurebus+ central arbitration contr.		PLCC68	IC19	86
FB2031	9-bit latched/reg./pass-thru FB+ transc.		QFP52	IC19	86
FB2033	8-bit latched/reg./pass-thru FB+ transc.		QFP52	IC19	86
FB2040A	8-bit Futurebus+ transceiver		QFP52	IC19	86
FB2041	7-bit Futurebus+ transceiver		QFP52	IC19	86
HEC4001B	Quadruple 2-input NOR gate	CDIP14		IC04	36
HEC4002B	Dual 4-input NOR gate	CDIP14		IC04	36
HEC4007UB	Dual complementary pair and inverter	CDIP14		IC04	35, 36
HEC40097B	3-state hex non-inverting buffer	CDIP16		IC04	35
HEC40098B	3-state hex inverting buffer	CDIP16		IC04	35
HEC4011B	Quadruple 2-input NAND gate	CDIP14		IC04	36
HEC4012B	Dual 4-input NAND gate	CDIP14		IC04	36
HEC4013B	Dual D-type flip-flop	CDIP14		IC04	36
HEC4014B	8-bit static shift register	CDIP16		IC04	37
HEC4015B	Dual 4-bit static shift register	CDIP16		IC04	37
HEC4016B	Quadruple bilateral switches	CDIP14		IC04	38
HEC40174B	Hex D-type flip-flop	CDIP16		IC04	36

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
HEC40175B	Quadruple D-type flip-flop	CDIP16		IC04	36
HEC4017B	5-stage Johnson counter	CDIP16		IC04	35
HEC40194B	4-bit bidir. universal shift register	CDIP16		IC04	37
HEC40195B	4-bit universal shift register	CDIP16		IC04	37
HEC4019B	Quadruple 2-input multiplexer	CDIP16		IC04	37
HEC4020B	14-stage binary counter	CDIP16		IC04	35
HEC4023B	Triple 3-input NAND gate	CDIP14		IC04	36
HEC4024B	7-stage binary counter	CDIP14		IC04	35
HEC4025B	Triple 3-input NOR gate	CDIP14		IC04	36
HEC4027B	Dual JK flip-flop	CDIP16		IC04	36
HEC4030B	Quadruple EXCLUSIVE-OR gate	CDIP14		IC04	36
HEC4035B	4-bit universal shift register	CDIP16		IC04	37
HEC4040B	12-stage binary counter	CDIP16		IC04	35
HEC4042B	Quadruple D-latch	CDIP16		IC04	37
HEC4047B	Monostable/astable multivibrator	CDIP14		IC04	37
HEC4049B	Hex inverting buffers	CDIP16		IC04	35
HEC4050B	Hex non-inverting buffers	CDIP16		IC04	35
HEC4051B	8-channel analog mulitiplexer/demultipl.	CDIP16		IC04	37
HEC4066B	Quadruple bilateral switches	CDIP14		IC04	38
HEC4068B	8-input NAND gate	CDIP14		IC04	36
HEC4069UB	Hex inverter	CDIP14		IC04	36
HEC4070B	Quadruple EXCLUSIVE-OR gate	CDIP14		IC04	36
HEC4071B	Quadruple 2-input OR gate	CDIP14		IC04	36
HEC4073B	Triple 3-input AND gate	CDIP14		IC04	36
HEC4081B	Quadruple 2-input AND gate	CDIP14		IC04	36
HEC4093B	Quadruple 2-input NAND Schmitt trigger	CDIP14		IC04	37
HEC4094B	8-stage shift-and-store bus register	CDIP16		IC04	37
HEC4505B	64-bit, 1-bit per word static R/W RAM	CDIP14		IC04	37
HEC4510B	BCD up/down counter	CDIP16		IC04	35
HEC4511B	BCD to 7-segment latch/decoder/driver	CDIP16		IC04	35, 36
HEC4512B	8-input multiplexer with 3-state output	CDIP16		IC04	37
HEC4519B	Quadruple 2-input multiplexer	CDIP16		IC04	37
HEC4520B	Dual binary counter	CDIP16		IC04	35
HEC4528B	Dual monostable multivibrator	CDIP16		IC04	37
HEC4539B	Dual 4-input multiplexer	CDIP16		IC04	37
HEC4541B	Programmable timer	CDIP14		IC04	38
HEC4556B	Dual 1-of-4 decoder/demultiplexer	CDIP16		IC04	35
HEC4557B	1-to-64 bit variable length shift regis.	CDIP16		IC04	37
HEC4585B	4-bit magnitude comparator	CDIP16		IC04	35
HEC4750V	Frequency synthesizer	CDIP28		IC04	38
HEC4751V	Universal divider	CDIP28		IC04	35
HEF4000B	Dual 3-input NOR gate and inverter	DIP14, CDIP14	SO14	IC04	36
HEF4001B	Quadruple 2-input NOR gate	DIP14, CDIP14	SO14	IC04	36
HEF4001UB	Quadruple 2-input NOR gate	DIP14, CDIP14	SO14	IC04	36
HEF4002B	Dual 4-input NOR gate	DIP14, CDIP14	SO14	IC04	36
HEF4006B	18-stage static shift register	DIP14, CDIP14	SO14	IC04	37
HEF4007UB	Dual complementary pair and inverter	DIP14, CDIP14	SO14	IC04	35, 36
HEF4008B	4-bit binary full adder	DIP16, CDIP16	SO16	IC04	35
HEF40097B	3-state hex non-inverting buffer	DIP16, CDIP16	SO16	IC04	35
HEF40098B	3-state hex inverting buffer	DIP16, CDIP16	SO16	IC04	35
HEF40106B	Hex inverting Schmitt trigger	DIP14, CDIP14	SO14	IC04	37
HEF4011B	Quadruple 2-input NAND gate	DIP14, CDIP14	SO14	IC04	36
HEF4011UB	Quadruple 2-input NAND gate	DIP14, CDIP14	SO14	IC04	36
HEF4012B	Dual 4-input NAND gate	DIP14, CDIP14	SO14	IC04	36
HEF4013B	Dual D-type flip-flop	DIP14, CDIP14	SO14	IC04	36
HEF4014B	8-bit static shift register	DIP16, CDIP16	SO16	IC04	37

INTEGRATED CIRCUITS

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
HEF4015B	Dual 4-bit static shift register	DIP16, CDIP16	SO16	IC04	37
HEF40160B	4-bit synchronous decade counter	DIP16, CDIP16	SO16	IC04	35
HEF40161B	4-bit synchronous binary counter	DIP16, CDIP16	SO16	IC04	35
HEF40162B	4-bit synchronous decade counter	DIP16, CDIP16	SO16	IC04	35
HEF40163B	4-bit synchronous binary counter	DIP16, CDIP16	SO16	IC04	35
HEF4016B	Quadruple bilateral switches	DIP14, CDIP14	SO14	IC04	38
HEF40174B	Hex D-type flip-flop	DIP16, CDIP16	SO16	IC04	36
HEF40175B	Quadruple D-type flip-flop	DIP16, CDIP16	SO16	IC04	36
HEF4017B	5-stage Johnson counter	DIP16, CDIP16	SO16	IC04	35
HEF4018B	Presettable divide-by-n counter	DIP16, CDIP16	SO16	IC04	35
HEF40192B	4-bit up/down decade counter	DIP16, CDIP16	SO16	IC04	35
HEF40193B	4-bit up/down binary counter	DIP16, CDIP16	SO16	IC04	35
HEF40194B	4-bit bidir. universal shift register	DIP16, CDIP16	SO16	IC04	37
HEF40195B	4-bit universal shift register	DIP16, CDIP16	SO16	IC04	37
HEF4019B	Quadruple 2-input multiplexer	DIP16, CDIP16	SO16	IC04	37
HEF4020B	14-stage binary counter	DIP16, CDIP16	SO16	IC04	35
HEF4021B	8-bit static shift register	DIP16, CDIP16	SO16	IC04	37
HEF4022B	4-stage divide-by-8 Johnson counter	DIP16, CDIP16	SO16	IC04	35
HEF4023B	Triple 3-input NAND gate	DIP14, CDIP14	SO14	IC04	36
HEF40240B	Octal buffers with 3-state outputs	DIP20, CDIP20	SO20	IC04	35
HEF40244B	Octal buffers with 3-state outputs	DIP20, CDIP20	SO20	IC04	35
HEF40245B	Octal bus transceiver; 3-state outputs	DIP20, CDIP20	SO20	IC04	38
HEF4024B	7-stage binary counter	DIP14, CDIP14	SO14	IC04	35
HEF4025B	Triple 3-input NOR gate	DIP14, CDIP14	SO14	IC04	36
HEF4027B	Dual JK flip-flop	DIP16, CDIP16	SO16	IC04	36
HEF4028B	1-of-10 decoder	DIP16, CDIP16	SO16	IC04	35
HEF4029B	Synchronous up/down counter	DIP16, CDIP16	SO16	IC04	35
HEF4030B	Quadruple EXCLUSIVE-OR gate	DIP14, CDIP14	SO14	IC04	36
HEF4031B	64-stage static shift register	DIP16, CDIP16	SO16	IC04	37
HEF4035B	4-bit universal shift register	DIP16, CDIP16	SO16	IC04	37
HEF40373B	Octal transparant latch with 3-state	DIP20, CDIP20	SO20	IC04	37
HEF40374B	Octal D-type flip-flop	DIP20, CDIP20	SO20	IC04	36
HEF4040B	12-stage binary counter	DIP16, CDIP16	SO16	IC04	35
HEF4041B	Quadruple true/complement buffer	DIP14, CDIP14	SO14	IC04	35
HEF4042B	Quadruple D-latch	DIP16, CDIP16	SO16	IC04	37
HEF4043B	Quadruple R/S latch with 3-state outputs	DIP16, CDIP16	SO16	IC04	37
HEF4044B	Quadruple R/S latch with 3-state outputs	DIP16, CDIP16	SO16	IC04	37
HEF4046B	Phase-locked loop	DIP16, CDIP16	SO16	IC04	38
HEF4047B	Monostable/astable multivibrator	DIP14, CDIP14	SO14	IC04	37
HEF4049B	Hex inverting buffers	DIP16, CDIP16	SO16	IC04	35
HEF4050B	Hex non-inverting buffers	DIP16, CDIP16	SO16	IC04	35
HEF4051B	8-channel analog mux/demux	DIP16, CDIP16	SO16	IC04	37
HEF4052B	Dual 4-channel analog mux/demux	DIP16, CDIP16	SO16	IC04	37
HEF4053B	Triple 2-channel analog mux/demux	DIP16, CDIP16	SO16	IC04	37
HEF4059B	Programmable divide-by-n counter	DIP24, CDIP24	SO24	IC04	35
HEF4060B	14-stage ripple-carry binary counter	DIP16, CDIP16	SO16	IC04	35
HEF4066B	Quadruple bilateral switches	DIP14, CDIP14	SO14	IC04	38
HEF4067B	16-channel analog mux/demux	DIP24, CDIP24	SO24	IC04	37
HEF4068B	8-input NAND gate	DIP14, CDIP14	SO14	IC04	36
HEF4069UB	Hex inverter	DIP14, CDIP14	SO14	IC04	36
HEF4070B	Quadruple EXCLUSIVE-OR gate	DIP14, CDIP14	SO14	IC04	36
HEF4071B	Quadruple 2-input OR gate	DIP14, CDIP14	SO14	IC04	36
HEF4072B	Dual 4-input OR gate	DIP14, CDIP14	SO14	IC04	36
HEF4073B	Triple 3-input AND gate	DIP14, CDIP14	SO14	IC04	36
HEF4075B	Triple 3-input OR gate	DIP14, CDIP14	SO14	IC04	36
HEF4076B	Quad D-type register, 3-state outputs	DIP16, CDIP16	SO16	IC04	37

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
HEF4077B	Quadruple EXCLUSIVE-NOR gate	DIP14, CDIP14	SO14	IC04	36
HEF4078B	8-input NOR gate	DIP14, CDIP14	SO14	IC04	36
HEF4081B	Quadruple 2-input AND gate	DIP14, CDIP14	SO14	IC04	36
HEF4082B	Dual 4-input AND gate	DIP14, CDIP14	SO14	IC04	36
HEF4085B	Dual 2-wide 2-input AND-OR-invert gate	DIP14, CDIP14	SO14	IC04	36
HEF4086B	4-wide 2-input AND-OR-invert gate	DIP14, CDIP14	SO14	IC04	36
HEF4093B	Quadruple 2-input NAND Schmitt trigger	DIP14, CDIP14	SO14	IC04	37
HEF4094B	8-stage shift-and-store bus register	DIP16, CDIP16	SO16	IC04	37
HEF4104B	Quadruple low-to-high voltage translator	DIP16, CDIP16	SO16	IC04	38
HEF4502B	Strobed hex inverter/buffer	DIP16, CDIP16	SO16	IC04	35
HEF4505B	64-bit, 1-bit per word static R/W RAM	DIP14, CDIP14		IC04	37
HEF4508B	Dual 4-bit latch	DIP24, CDIP24	SO24	IC04	37
HEF4510B	BCD up/down counter	DIP16, CDIP16	SO16	IC04	35
HEF4511B	BCD to 7-segment latch/decoder/driver	DIP16, CDIP16	SO16	IC04	35-37
HEF4512B	8-input multiplexer with 3-state output	DIP16, CDIP16	SO16	IC04	37
HEF4514B	1-of-16 decoder/demultiplexer	DIP24, CDIP24	SO24	IC04	35
HEF4515B	1-of-16 decoder/demultiplexer	DIP24, CDIP24	SO24	IC04	35
HEF4516B	Binary up/down counter	DIP16, CDIP16	SO16	IC04	35
HEF4517B	Dual 64-bit static shift register	DIP16, CDIP16	SO16	IC04	37
HEF4518B	Dual BCD counter	DIP16, CDIP16	SO16	IC04	35
HEF4519B	Quadruple 2-input multiplexer	DIP16, CDIP16	SO16	IC04	37
HEF4520B	Dual binary counter	DIP16, CDIP16	SO16	IC04	35
HEF4521B	24-stage frequency divider	DIP16, CDIP16	SO16	IC04	35
HEF4522B	Programmable 4-bit BCD down counter	DIP16, CDIP16	SO16	IC04	35
HEF4526B	Programmable 4-bit binary down counter	DIP16, CDIP16	SO16	IC04	35
HEF4527B	BCD rate multiplier	DIP16, CDIP16	SO16	IC04	38
HEF4528B	Dual monostable multivibrator	DIP16, CDIP16	SO16	IC04	37
HEF4531B	13-input parity checker/generator	DIP16, CDIP16	SO16	IC04	35
HEF4532B	8-input priority encoder	DIP16, CDIP16	SO16	IC04	36
HEF4534B	Real time 5-decade counter	DIP24, CDIP24	SO24	IC04	35
HEF4538B	Dual precision monostable multivibrator	DIP16, CDIP16	SO16	IC04	37
HEF4539B	Dual 4-input multiplexer	DIP16, CDIP16	SO16	IC04	37
HEF4541B	Programmable timer	DIP14, CDIP14	SO14	IC04	38
HEF4543B	BCD to 7-segment latch/decoder/driver	DIP16, CDIP16	SO16	IC04	35-37
HEF4555B	Dual 1-of-4 decoder/demultiplexer	DIP16, CDIP16	SO16	IC04	35
HEF4556B	Dual 1-of-4 decoder/demultiplexer	DIP16, CDIP16	SO16	IC04	35
HEF4557B	1-to-64 bit variable length shift reg.	DIP16, CDIP16	SO16	IC04	37
HEF4585B	4-bit magnitude comparator	DIP16, CDIP16	SO16	IC04	35
HEF4720B	256-bit, 1-bit per word RAM	DIP16, CDIP16	SO16	IC04	37
HEF4720V	256-bit, 1-bit per word RAM	DIP16, CDIP16	SO16	IC04	37
HEF4724B	8-bit addressable latch	DIP16, CDIP16	SO16	IC04	37
HEF4731B	Quadruple 64-bit static shift register	DIP14, CDIP14		IC04	37
HEF4731V	Quadruple 64-bit static shift register	DIP14, CDIP14		IC04	37
HEF4737B	Quadruple static decade counter	DIP18, CDIP18		IC04	35
HEF4737V	Quadruple static decade counter	DIP18, CDIP18		IC04	35
HEF4738V	IEC/IEEE bus interface	DIP40		IC04	38
HEF4750V	Frequency synthesizer	CDIP28		IC04	38
HEF4751V	Universal divider	DIP28, CDIP28	SO28	IC04	35
HEF4752V	AC motor control circuit	DIP28, CDIP28		IC04	38
HEF4753B	Universal timer module	DIP18, CDIP18		IC04	38
HEF4753V	Universal timer module	DIP18, CDIP18		sales	38
HEF4754V	18-element bar graph LCD driver	DIP28, CDIP28	SO28	IC04	38
HEF4755V	Transceiver for serial data comm.	DIP28, CDIP28	SO28	IC04	38
HEF4794B	8-stage shift-and-store register LED dr.	DIP16	SO16	IC04	37
HEF4894B	12-stage shift-and-store reg. LED driver	DIP20	SO20	IC04	37
HEF4938B	Dual precision monostable multivibrator	DIP16		IC04	37

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package		hand book	page 3–
		through-hole	SMD		
HEF7069UB	Hex inverter; open drain	DIP14	SO14	sales	36
ICM7555C	General purpose CMOS timer	DIP8	SO8	IC11	79
ICM7555I	General purpose CMOS timer	DIP8	SO8	IC11	79
LF198	Sample-and-hold amplifier	CDIP8		IC11	79
LF298	Sample-and-hold amplifier	CDIP8		IC11	79
LF398	Sample-and-hold amplifier	DIP8, CDIP8	SO14	IC11	79
LM111	Voltage comparator	CDIP8		IC11	78
LM124	Quad low-power operational amplifier	DIP14, CDIP14		IC11	77
LM139	Quad voltage comparator	CDIP14		IC11	78
LM139A	Quad voltage comparator	DIP14		IC11	78
LM158	Dual low-power operational amplifier	CDIP8		IC11	77
LM193	Low-power dual voltage comparator	CDIP8		IC11	78
LM193A	Low-power dual voltage comparator	DIP8		IC11	78
LM211	Voltage comparator	DIP8	SO8	IC11	78
LM219	Dual voltage comparator	CDIP14		IC11	78
LM224	Quad low-power operational amplifier	DIP14, CDIP14		IC11	77
LM239	Quad voltage comparator	DIP14	SO14	IC11	78
LM239A	Quad voltage comparator	DIP14		IC11	78
LM258	Dual low-power operational amplifier	DIP8	SO8	IC11	77
LM2901	Quad voltage comparator	DIP14	SO14	IC11	78
LM2902	Quad low-power operational amplifier	DIP14	SO14	IC11	77
LM2903	Low-power dual voltage comparator	DIP8	SO8	IC11	78
LM2904	Dual low-power operational amplifier	DIP8	SO8	IC11	77
LM293	Low-power dual voltage comparator	DIP8, CDIP8	SO8	IC11	78
LM293A	Low-power dual voltage comparator	DIP8		IC11	78
LM311	Voltage comparator	DIP8	SO8	IC11	78
LM311B	Voltage comparator	DIP8	SO8	IC11	78
LM319	Dual voltage comparator	DIP14	SO14	IC11	78
LM324	Quad low-power operational amplifier	DIP14, CDIP14	SO14	IC11	77
LM324A	Quad low-power operational amplifier	DIP14	SO14	IC11	77
LM339	Quad voltage comparator	DIP14	SO14	IC11	78
LM339A	Quad voltage comparator	DIP14		IC11	78
LM358	Dual low-power operational amplifier	DIP8	SO8	IC11	77
LM358A	Dual low-power operational amplifier	DIP8	SO8	IC11	77
LM393	Low-power dual voltage comparator	DIP8, CDIP8	SO8	IC11	78
LM393A	Low-power dual voltage comparator	DIP8, CDIP8		IC11	78
LVT16V8L-D	3 Volt BiCMOS versatile GAL-type PLD	DIP20	PLCC20, SO20 SSOP20, TSSOP20	sales	66
LVT16V8-6	3 Volt BiCMOS versatile GAL-type PLD	DIP20	PLCC20, SO20 SSOP20, TSSOP20	sales	66
LVT16V8-7	3 Volt BiCMOS versatile GAL-type PLD	DIP20	PLCC20, SO24 SSOP20, TSSOP20	sales	66
LVT22V10-7	3 Volt BiCMOS versatile PAL	DIP24	PLCC28, SO28	sales	66
LVT22V10-B	3 Volt BiCMOS versatile PAL	DIP24	PLCC28, SO24	sales	66
LVT22V10-D	3 Volt BiCMOS versatile PAL	DIP24	PLCC28, SO24	sales	66
LVT3032	3 V BiCMOS 32 macrocell CPLD		PLCC44	sales	67
MAx8421	8-bit NMOS microcontroller	DIP28	SO28	IC14	75
MAx8441	8-bit NMOS microcontroller	DIP28	SO28	IC14	75
MAx8461	8-bit NMOS microcontroller	DIP28	SO28	IC14	75
MB2052	Dual octal registered transceiver		QFP52	IC23	58
MB2240	16-bit inverting buffer/line driver		QFP52	IC23	57
MB2241	16-bit buffer/line driver		QFP52	IC23	57
MB2244	16-bit buffer/line driver		QFP52	IC23	57
MB2245	Dual octal transceiver		QFP52	IC23	58
MB2373	Dual octal transparent latch		QFP52	IC23	57
MB2374	Dual octal D-type flip-flop		QFP52	IC23	57

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
MB2377	Dual octal D-type flip-flop with enable		QFP52	IC23	57
MB2541	Dual octal buffer/line drivers		QFP52	IC23	57
MB2543	Dual octal latched transceiver		QFP52	IC23	58
MB2623	Dual octal transceiver with dual enable		QFP52	IC23	58
MB2646	Dual octal bus transceivers/registers		QFP52	IC23	58
MB2652	Dual octal transceivers/registers		QFP52	IC23	58
MB2821	Dual 10-bit D-type flip-flop		QFP52	IC23	58
MB2823	Dual 9-bit D-type flip-flop		QFP52	IC23	58
MB2827	Dual 10-bit buffer/line driver		QFP52	IC23	57
MB2841	Dual 10-bit bus interface latch		QFP52	IC23	58
MB2861	Dual 10-bit bus transceiver		QFP52	IC23	58
MC1408-8	8-bit multiplying DAC	DIP16	SO16	IC11	78
MC145406	EIA-232-D, CCITT V.28 driver/receiver	DIP16	SO16L	IC19	85
MC1458	Dual gen. purpose operational amplifier	DIP8	SO8	IC11	77
MC1496	Balanced modulator/demodulator	DIP14, CDIL14		IC17	87
MC1508-8	8-bit multiplying DAC	CDIP16		IC11	78
MC1558	Dual gen. purpose operational amplifier	DIP8		IC11	77
MC1596	Balanced modulator/demodulator	DIP14, CDIP14		IC17	87
MC3302	Quad voltage comparator	DIP14, CDIP14	SO14	IC11	78
MC3361	Low-power FM IF system	DIP16	SO16L	IC03, 17	88
MC3410	10-bit high-speed multiplying DAC	CDIP16		IC11	78
MC3410C	10-bit high-speed multiplying DAC	CDIP16		IC11	78
N74F00	Quad 2-input NAND gate	DIP14	SO14	IC15	62
N74F02	Quad 2-input NOR gate	DIP14	SO14	IC15	62
N74F04	Hex inverter	DIP14	SO14	IC15	63
N74F06	Hex inverter buffer/driver	DIP14	SO14	IC15	60
N74F07	Hex buffer/line driver	DIP14	SO14	IC15	60
N74F08	Quad 2-input AND gate	DIP14	SO14	IC15	62
N74F10	Triple 3-input NAND gate	DIP14	SO14	IC15	62
N74F109	Dual JK positive-edge triggered flip-flo	DIP16	SO16	IC15	62
N74F11	Triple 3-input AND gate	DIP14	SO14	IC15	62
N74F112	Dual JK negative-edge trigg. flip-flop	DIP16	SO16	IC15	62
N74F113	Dual JK positive-edge triggered flip-flo	DIP14	SO14	IC15	62
N74F114	Dual JK negative-edge trigg. flip-flop	DIP14	SO14	IC15	62
N74F1240	Octal buffer	DIP20	SO20	IC15	60
N74F1241	Octal buffer	DIP20	SO20	IC15	60
N74F1243	Quad transceiver	DIP14	SO14	IC15	65
N74F1244	Octal buffer	DIP20	SO20	IC15	60
N74F1245	Octal bus transceiver	DIP20	SO20	IC15	65
N74F125	Quad buffer	DIP14	SO14	IC15	60
N74F126	Quad buffer	DIP14	SO14	IC15	60
N74F132	Quad 2-input NAND Schmitt trigger	DIP14	SO14	IC15	62, 64
N74F133	13-input NAND gate	DIP16	SO16	IC15	62
N74F138	3-line to 8-line decoder/demultiplexer	DIP16	SO16	IC15	61
N74F139	Dual 2-line to 4-line decoder/demux	DIP16	SO16	IC15	61
N74F14	Hex inverter Schmitt trigger	DIP14	SO14	IC15	64
N74F148	8-line to 3-line priority encoder	DIP16	SO16	IC15	61
N74F151A	8-line to 1-line multiplexer	DIP16	SO16	IC15	63
N74F153	Dual 4-line to 1-line multiplexer	DIP16	SO16	IC15	63
N74F154	4-line to 16-line decoder/demultiplexer	SDIP24	SO24	IC15	61
N74F157	Quad 2-input data selector/multiplexer	DIP16	SO16	IC15	63
N74F157A	Quad 2-input data selector/multiplexer	DIP16	SO16	IC15	63
N74F158	Quad 2-input data selector/multiplexer	DIP16	SO16	IC15	63
N74F158A	Quad 2-input data selector/multiplexer	DIP16	SO16	IC15	63
N74F1604	Dual octal latch	DIP28	SO28	IC15	63
N74F161A	Synchronous 4-bit binary counter	DIP16	SO16	IC15	60

type number	description	package		hand book	page 3–
		through-hole	SMD		
N74F163A	Synchronous 4-bit binary counter	DIP16	SO16	IC15	60
N74F164	8-bit serial-in/parallel-out shift reg.	DIP14	SO14	IC15	64
N74F166	8-bit ser./par.-in/serial-out shift reg.	DIP16	SO16	IC15	64
N74F169	Synchr. 4-bit binary up/down counter	DIP16	SO16	IC15	61
N74F173	Quad D-type flip-flop	DIP16	SO16	IC15	61
N74F174	Hex D-type flip-flop with reset	DIP16	SO16	IC15	61
N74F175	Quad D-type edge-triggered flip-flop	DIP16	SO16	IC15	61
N74F1762	4 M-bit memory address controller	DIP40	PLCC44	IC15	64, 69
N74F1763	1 M-bit intelligent DRAM controller	DIP48	PLCC44	IC15	64, 69
N74F1764	1 M-bit DRAM dual ported controller	DIP48	PLCC44	IC15	64, 69
N74F1764-1	1 M-bit DRAM dual ported controller	DIP48	PLCC44	IC15	64, 69
N74F1765	1 M-bit DRAM dual ported controller	DIP48	PLCC44	IC15	64, 69
N74F1765-1	1 M-bit DRAM dual ported controller	DIP48	PLCC44	IC15	64, 69
N74F1766	Burst-mode DRAM controller	DIP48	PLCC44	IC15	64, 69
N74F1779	8-bit bidirectional binary counter	DIP16	SO16L	IC15	61
N74F1804	Hex 2-input NAND driver	DIP20	SO20	IC15	61
N74F1805	Hex 2-input NOR driver	DIP20	SO20	IC15	61
N74F1808	Hex 2-input NAND driver	DIP20	SO20	IC15	61
N74F181	4-bit arithmetic logic unit	SDIP24	SO24	IC15	60
N74F182	Look-ahead carry generator	DIP16	SO16	IC15	60
N74F1832	hex 2-input OR driver	DIP20	SO20	IC15	61
N74F189A	64-bit TTL bipolar RAM (16x4)	DIP16	SO16, SO16L	IC15	63, 69
N74F191	Preset. 4-bit binary up/down counter	DIP16	SO16	IC15	61
N74F193	Preset. 4-bit binary up/down counter	DIP16	SO16	IC15	61
N74F194	4-bit bidirectional universal shift reg.	DIP16	SO16	IC15	64
N74F195	4-bit parallel access shift register	DIP16	SO16	IC15	64
N74F198	8-bit bidirectional universal shift reg.	SDIP24	SO24	IC15	64
N74F199	8-bit parallel access shift register	SDIP24	SO24	IC15	64
N74F20	Dual 4-input NAND gate	DIP14	SO14	IC15	62
N74F219A	64-bit TTL bipolar RAM (16x4)	DIP16	SO16, SO16L	IC15	63, 69
N74F2240	Octal inv. buffer with 30 Ω term. networ	DIP20	SO20	IC15	60
N74F2241	Octal buffer with 30 Ω term. network	DIP20	SO20	IC15	60
N74F2244	Octal buffer with 30 Ω term. network	DIP20	SO20, SSOP20	IC15	60
N74F2245	Octal bus transceiver	DIP20	SO20	sales	65
N74F225	16x5 asynchronous FIFO	DIP20	SO20	IC15	64
N74F2373	Octal transparent latch	DIP20	SO20	sales	63
N74F240	Octal inverter buffer	DIP20	SO20, SSOP20	IC15	60
N74F240A	Octal inverter buffer	DIP20	SO20, SSOP20	IC15	60
N74F241	Octal buffer	DIP20	SO20	IC15	60
N74F241A	Octal buffer	DIP20	SO20	IC15	60
N74F242	Quad bus inverting transceiver	DIP14	SO14	IC15	64
N74F243	Quad bus transceiver	DIP14	SO14	IC15	64
N74F244	Octal buffer	DIP20	SO20, SSOP20	IC15	60
N74F244A	Octal buffer	DIP20	SO20	IC15	60
N74F244B	Octal buffers	DIP20	SO20	IC15	60
N74F245	Octal bus transceiver	DIP20	SO20, SSOP20	IC15	64
N74F251A	8-line to 1-line multiplexer	DIP16	SO16	IC15	63
N74F253	Dual 4-line to 1-line multiplexer	DIP16	SO16	IC15	63
N74F256	Dual 4-bit addressable latch	DIP16	SO16	IC15	63
N74F257A	Quad 2-line to 1-line data selector/mux	DIP16	SO16	IC15	63
N74F258A	Quad 2-line to 1-line data selector/mux	DIP16	SO16	IC15	63
N74F259	8-bit addressable latch	DIP16	SO16	IC15	63
N74F260	Dual 5-input NOR gate	DIP14	SO14	IC15	62
N74F269	8-bit binary counter	SDIP24	SO24	IC15	61
N74F27	Triple 3-input NOR gate	DIP14	SO14	IC15	62
N74F273	Octal D-type flip-flop with reset	DIP20	SO20	IC15	61

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
N74F273A	Octal D-type flip-flop	DIP20	SO20	IC15	61
N74F280A	9-bit odd/even parity generator/checker	DIP14	SO14	IC15	60
N74F280B	9-bit odd/even parity generator/checker	DIP14	SO14	IC15	60
N74F283	4-bit full adder with fast carry	DIP16	SO16	IC15	60
N74F2952	8-bit transceiver	SDIP24	SO24, PLCC28	IC15	65
N74F2953	8-bit transceiver	SDIP24	SO24, PLCC28	IC15	65
N74F298	Quad 2-input multiplexer with storage	DIP16	SO16	IC15	64
N74F299	Octal shift/storage register	DIP20	SO20	IC15	64
N74F30	8-input NAND gate	DIP14	SO14	IC15	62
N74F30240	Octal 30 Ω line driver with enable	SDIP24, CDIP24	SO24	IC15	61
N74F30244	Octal 30 Ω transm.-line/backplane driver	SDIP24, CDIP24	SO24	IC15	61
N74F3037	Quad 2-inp. NAND, 30 Ω transm. line dr.	DIP16	SO16L	IC15	61
N74F3038	Quad 2-inp. NAND, 30 Ω transm. line dr.	DIP16	SO16L	IC15	61
N74F3040	Qual 4-inp. NAND, 30 Ω transm. line dr.	DIP16	SO16L	IC15	61
N74F32	Quad 2-input OR gate	DIP14	SO14	IC15	62
N74F322	Octal shift/storage register	DIP20	SO20	IC15	64
N74F323	Octal shift/storage register	DIP20	SO20	IC15	64
N74F350	4-bit shift register	DIP16	SO16	IC15	64
N74F353	Dual 4-input multiplexer	DIP16	SO16	IC15	63
N74F365	Hex buffer/driver	DIP16	SO16	IC15	60
N74F366	Hex inverter buffer	DIP16	SO16	IC15	60
N74F367	Hex buffer/driver	DIP16	SO16	IC15	60
N74F368	Hex inverter buffer	DIP16	SO16	IC15	60
N74F37	Quad 2-input NAND buffer	DIP14	SO14	IC15	62
N74F373	Octal transparent latch	DIP20	SO20, SSOP20	IC15	63
N74F374	Octal D-type flip-flop	DIP20	SO20, SSOP20	IC15	61
N74F377	Octal D-type flip-flop with clock enable	DIP20	SO20	IC15	61
N74F377A	Octal D-type flip-flop with enable	DIP20	SO20	IC15	61
N74F378	Hex D-type flip-flop with clock enable	DIP16	SO16	IC15	61
N74F379	Quad D-type flip-flop with enable	DIP16	SO16	IC15	61
N74F379A	Quad parallel register with enable	DIP16	SO16	IC15	61
N74F38	Quad 2-input NAND buffer	DIP14	SO14	IC15	62
N74F381	4-bit arithmetic logic unit	DIP20	SO20	IC15	60
N74F382	4-bit arithmetic logic unit	DIP20	SO20	IC15	60
N74F385	Quad serial adder/subtractor	DIP20	SO20	IC15	60
N74F3893	Quad FutureBus backplane transceiver		PLCC20	IC15	65
N74F393	Dual 4-bit binary ripple counter	DIP14	SO14	IC15	61
N74F395	4-bit cascadable shift register	DIP16	SO16	IC15	64
N74F398	Quad 2-port register true	DIP20	SO20	IC15	64
N74F399	Quad 2-port register true	DIP16	SO16	IC15	64
N74F40	Dual 4-input NAND buffer	DIP14	SO14	IC15	62
N74F410	64-bit TTL bipolar RAM (16x4)	DIP18		IC15	63, 64, 69
N74F455	Octal buffer with parity gen. checker	SDIP24	SO24	IC15	60
N74F456	Octal buffer with parity gen. checker	SDIP24	SO24	IC15	60
N74F50109	Synchronizing dual JK flip-flop	DIP16	SO16	IC15	62
N74F50728	Cascaded synchr. dual D-type flip-flop	DIP14	SO14	IC15	62
N74F50729	Synchronizing dual D-type flip-flop	DIP14	SO14	IC15	62
N74F5074	Synchronizing dual D-type flip-flop	DIP14	SO14	IC15	62
N74F51	Dual 2-wide 2-input AND-OR-inv. gate	DIP14	SO14	IC15	62
N74F521	8-bit identify comparator	DIP20	SO20	IC15	60
N74F524	8-bit register comparator	DIP20	SO20	IC15	60
N74F5300	Fiber-optic LED driver	DIP8	SO8	IC15	61
N74F5302	Fiber-optic dual LED/clock driver	DIP14	SO14	IC15	61
N74F533	Inverting octal D-type latch	DIP20	SO20	IC15	63
N74F534	Octal D-type flip-flop	DIP20	SO20	IC15	61
N74F537	1-of-10 decoder	DIP20	SO20	IC15	61

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
N74F538	1-of-8 decoder	DIP20	SO20	IC15	61
N74F539	Dual 1-of-4 decoder	DIP20	SO20	IC15	61
N74F540	Octal buffer/line driver	DIP20	SO20	IC15	60
N74F541	Octal non-inverting buffer/line driver	DIP20	SO20	IC15	60
N74F543	Octal registered transceiver	SDIP24	SO24	IC15	64
N74F544	Octal registered transceiver	SDIP24	SO24	IC15	64
N74F545	Octal bus transceiver	DIP20	SO20	IC15	65
N74F552	Octal reg. transceiver with status flags	DIP28	SO28	IC15	65
N74F564	Octal D-type flip-flop	DIP20	SO20	IC15	61
N74F569	4-bit binary up/down synchr. counter	DIP20	SO20	IC15	61
N74F573	Octal transparent latch	DIP20	SO20	IC15	63
N74F574	Octal D-type flip-flop	DIP20	SO20	IC15	61
N74F579	8-bit binary up/down counter, common I/O	DIP20	SO20	IC15	61
N74F595	8-bit shift register with output latches	DIP16	SO16	IC15	64
N74F597	8-bit shift register with input latches	DIP16	SO16	IC15	64
N74F598	8-bit shift register with input latches	DIP20	SO20	IC15	64
N74F604	Dual 8-bit register	DIP28	SO28	IC15	63
N74F620	Octal bus transceiver	DIP20	SO20	IC15	65
N74F621	Octal bus transceiver	DIP20	SO20	IC15	65
N74F623	Octal bus transceiver	DIP20	SO20	IC15	65
N74F64	4-2-3-2-input AND-OR-invert gate	DIP14	SO14	IC15	62
N74F640	Octal bus transceiver	DIP20	SO20	IC15	65
N74F641	Octal bus transceiver	DIP20	SO20	IC15	65
N74F642	Octal bus transceiver	DIP20	SO20	IC15	65
N74F646	Octal bus transceiver and register	SDIP24	SO24	IC15	65
N74F646A	Octal bus transceiver and register	SDIP24	SO24	IC15	65
N74F647	Octal bus transceiver and register	SDIP24	SO24	IC15	65
N74F648	Octal bus transceiver and register	SDIP24	SO24	IC15	65
N74F648A	Octal bus transceiver and register	SDIP24	SO24	IC15	65
N74F649	Octal bus transceiver and register	SDIP24	SO24	IC15	65
N74F651	Octal transceiver/register	SDIP24	SO24	IC15	65
N74F651A	Octal transceiver/register	SDIP24	SO24	IC15	65
N74F652	Octal transceiver/register	SDIP24	SO24	IC15	65
N74F652A	Octal transceiver/register	SDIP24	SO24	IC15	65
N74F653	Octal transceiver/register	CDIP24		IC15	65
N74F655A	Octal inv. buffer with parity gen./check	SDIP24	SO24	IC15	60
N74F656A	Octal buffer with parity gen. checker	SDIP24	SO24	IC15	60
N74F657	Octal bus transc. with parity gen./check	SDIP24	SO24	IC15	65
N74F670	4x4 register file	DIP16	SO16L	IC15	64
N74F674	16-bit ser./par.-in,serial out shift reg	SDIP24	SO24	IC15	64
N74F676	16-bit ser./par.-in,serial out shift reg	SDIP24	SO24	IC15	64
N74F711A	Quintuple 2-input multiplexer	DIP20	SO20	IC15	63
N74F711-1	Quint 2-input mux with 30 Ω termination	DIP20	SO20	IC15	63
N74F712A	Quintuple 3-input multiplexer	SDIP24	SO24	IC15	63
N74F712-1	Quint 3-input mux with 30 Ω termination	SDIP24	SO24	IC15	63
N74F723A	Quad 3-input multiplexer	SDIP24	SO24	IC15	63
N74F723-1	Quad 3-input mux with 30 Ω termination	SDIP24	SO24	IC15	63
N74F725A	Quad 4-input multiplexer	SDIP24	SO24	IC15	63
N74F725-1	Quad 4-input mux with 30 Ω termination	SDIP24	SO24	IC15	63
N74F733	Quad data multiplexer	DIP20	SO20	IC15	63
N74F74	Dual D-type edge-triggered flip-flop	DIP14	SO14	IC15	61
N74F756	Octal inverter buffer	DIP20	SO20	IC15	60
N74F757	Octal buffer	DIP20	SO20	IC15	60
N74F760	Octal buffer	DIP20	SO20	IC15	60
N74F764-1	DRAM dual ported controller	DIP40	PLCC44	IC15	64, 69
N74F765-1	DRAM dual ported controller w/o latch	DIP40	PLCC44	IC15	64, 69

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
N74F776	Octal bidir. latched bus transceiver	DIP28	PLCC28	IC15	65
N74F777	Triple bidir. latched bus transceiver	DIP20	PLCC20	IC15	65
N74F779	8-bit bidirectional binary counter	DIP16	SO16L	IC15	61
N74F786	4-input asynchronous bus arbiter	DIP16	SO16	IC15	64
N74F804	Hex 2-input NAND driver	DIP20	SO20	IC15	61
N74F805	Hex 2-input NOR driver	DIP20	SO20	IC15	61
N74F807	Octal shift/count registered transceiver	DIP28	SO28, PLCC28	IC15	65
N74F808	Hex 2-input AND driver	DIP20	SO20	IC15	61
N74F821	10-bit bus interface register	SDIP24	SO24	IC15	64
N74F822	10-bit bus interface register	SDIP24	SO24	IC15	64
N74F823	9-bit bus interface register	SDIP24	SO24	IC15	64
N74F824	9-bit bus interface register	SDIP24	SO24	IC15	64
N74F825	9-bit bus interface register	SDIP24	SO24	IC15	64
N74F826	9-bit bus interface register	SDIP24	SO24	IC15	64
N74F827	10-bit buffer line driver	SDIP24	SO24, SSOP24	IC15	60
N74F828	10-bit buffer line driver	SDIP24	SO24	IC15	60
N74F832	Hex 2-input OR driver	DIP20	SO20	IC15	61
N74F835	8-bit shift register	SDIP24	SO24	IC15	64
N74F841	10-bit bus interface latch	SDIP24	SO24	IC15	63
N74F842	10-bit bus interface latch	SDIP24	SO24	IC15	63
N74F843	9-bit bus interface latch	SDIP24	SO24	IC15	63
N74F844	9-bit bus interface latch	SDIP24	SO24	IC15	63
N74F845	8-bit bus interface latch	SDIP24	SO24	IC15	63
N74F846	8-bit bus interface latch	SDIP24	SO24	IC15	63
N74F85	4-bit magnitude comparator	DIP16	SO16L	IC15	60
N74F86	Quad 2-input EXCLUSIVE-OR gate	DIP14	SO14	IC15	62
N74F861	10-bit bus transceiver	SDIP24	SO24	IC15	65
N74F862	10-bit bus transceiver	SDIP24	SO24	IC15	65
N74F863	9-bit bus transceiver	SDIP24	SO24	IC15	65
N74F864	9-bit bus transceiver	SDIP24	SO24	IC15	65
N74F8960	Octal latched bidir. FutureBus transc.	DIP28	PLCC28	IC15	65
N74F8961	Octal latched bidir. FutureBus transc.	DIP28	PLCC28	IC15	65
N74F8962	9-bit latched bidir. FutureBus transc.		QFP44, PLCC44	IC15	65
N74F8963	9-bit latched bidir. FutureBus transc.		QFP44, PLCC44	IC15	65
N74F8965	Futurebus address data transceiver		PLCC44	IC15	65
N74F8966	Futurebus address data transceiver		PLCC44	IC15	65
N82HS321	32768-bit bipolar PROM (4096x8)	DIP24, CDIP24	PLCC28	sales	68
N82HS321A	32768-bit bipolar PROM (4096x8)	DIP24, CDIP24	PLCC28	sales	68
N82HS321B	32768-bit bipolar PROM (4096x8)	DIP24, CDIP24	PLCC28	sales	68
N82LS135	2048-bit bipolar PROM (256x8)	DIP20	SO20, PLCC20	sales	68
N82S123	256-bit bipolar PROM (32x8)	DIP16	SO16, PLCC20	sales	68
N82S123A	256-bit bipolar PROM (32x8)	DIP16	SO16, PLCC20	sales	68
N82S126	1024-bit bipolar PROM (256x4)	DIP16	SO16, PLCC20	sales	68
N82S126A	1024-bit bipolar PROM (256x4)	DIP16	SO16, PLCC20	sales	68
N82S129	1024-bit bipolar PROM (256x4)	DIP16	SO16, PLCC20	sales	68
N82S129A	1024-bit bipolar PROM (256x4)	DIP16	SO16, PLCC20	sales	68
N82S130	2048-bit bipolar PROM (512x4)	DIP16	SO16, PLCC20	sales	68
N82S130A	2048-bit bipolar PROM (512x4)	DIP16	SO16, PLCC20	sales	68
N82S131	2048-bit bipolar PROM (512x4)	DIP16	SO16, PLCC20	sales	68
N82S131A	2048-bit bipolar PROM (512x4)	DIP16	SO16, PLCC20	sales	68
N82S135	2048-bit bipolar PROM (256x8)	DIP20	SO20, PLCC20	sales	68
N82S137	4096-bit bipolar PROM (1024x4)	DIP18	SO20, PLCC20	sales	68
N82S137A	4096-bit bipolar PROM (1024x4)	DIP18	SO20, PLCC20	sales	68
N82S137B	4096-bit bipolar PROM (1024x4)	DIP18	SO20, PLCC20	sales	68
N82S141	4096-bit bipolar PROM (512x8)	DIP24, SDIP24	PLCC28	sales	68
N82S141A	4096-bit bipolar PROM (512x8)	DIP24, SDIP24	PLCC28	sales	68

type		package		hand	page
number	description	through-hole	SMD	book	3–
N82S147	4096-bit bipolar PROM (512x8)	DIP20	SO20, PLCC20	sales	68
N82S147A	4096-bit bipolar PROM (512x8)	DIP20	SO20, PLCC20	sales	68
N82S147B	4096-bit bipolar PROM (512x8)	DIP20	SO20, PLCC20	sales	68
N82S181	8192-bit bipolar PROM (1024x8)	DIP24, SDIP24	PLCC28	sales	68
N82S181A	8192-bit bipolar PROM (1024x8)	DIP24	PLCC28	sales	68
N82S181C	8192-bit bipolar PROM (1024x8)	DIP24, SDIP24	PLCC28	sales	68
N82S185A	8192-bit bipolar PROM (2048x4)	DIP18	SO18, PLCC20	sales	68
N82S185B	8192-bit bipolar PROM (2048x4)	DIP18	SO18, PLCC20	sales	68
N82S185C	8192-bit bipolar PROM (2048x4)	DIP18	SO18, PLCC20	sales	68
N82S191	16384-bit bipolar PROM (2048x8)	DIP24, SDIP24	PLCC28	sales	68
N82S191A	16384-bit bipolar PROM (2048x8)	DIP24, SDIP24	PLCC28	sales	68
N82S191C	16384-bit bipolar PROM (2048x8)	DIP24, SDIP24	PLCC28	sales	68
N82S23	256-bit bipolar PROM (32x8)	DIP16	SO16, PLCC20	sales	68
N82S23A	256-bit bipolar PROM (32x8)	DIP16	SO16, PLCC20	sales	68
NE4558	Dual gen. purpose operational amplifier	DIP8	SO8	IC11	77
NE5018	8-bit microprocesor-compatible DAC	DIP22, CDIP22	SO24	IC11	78
NE5019	8-bit microprocesor-compatible DAC	DIP22		IC11	78
NE5020	10-bit microprocesor-compatible DAC	DIP24, CDIP24		IC11	78
NE5037	6-bit ADC with parallel outputs	DIP16		IC11	78
NE5044	Programmable 7-channel RC encoder	DIP16	SO16	IC11	89
NE5090	Addressable relay driver	DIP16	SO16L	IC11	79
NE5180	Octal differential line receiver	DIP28	PLCC28	IC19	85
NE5181	Octal differential line receiver	DIP28	PLCC28	IC19	85
NE5200	Dual gain stage RF amplifier		SO8	IC03, 17	87
NE5204A	350 MHz wide-band amplifier	DIP8	SO8	IC17	87
NE5205A	600 MHz wide-band amplifier	DIP8	SO8	IC17	87
NE5209	850 MHz variable gain amplifier	DIP16	SO16	IC17	87
NE521	High-speed dual diff. comp./sense ampl.	DIP14, CDIP14	SO14	IC11	78
NE5210	280 MHz transimpedance amplifier		SO14	IC19	86
NE5211	180 MHz transimpedance amplifier		SO14	IC19	86
NE5212A	140 MHz transimpedance amplifier	DIP8, CDIP8	SO8	IC19	86
NE5214	Fibre-optic post-amplifier		SO20	IC19	86
NE5217	Fibre-optic post-amplifier		SO20	IC19	86
NE5219	700 MHz variable gain amplifier	DIP16	SO16	IC03, 17	87
NE522	High-speed dual diff. comp./sense ampl.	DIP14	SO14	IC11	79
NE5224	FDDI fibre-optic post-amplifier		SO16	IC19	86
NE5225	FDDI fibre-optic post-amplifier		SO16	IC19	86
NE5230	Low-voltage operational amplifier	DIP8	SO8	IC11	77
NE5234	Quad low-voltage operational amplifier	DIP14	SO14	IC11	77
NE527	Voltage comparator	DIP14	SO14	IC11	79
NE529	Voltage comparator	DIP14	SO14	IC11	79
NE531	High slew rate operational amplifier	DIP8		IC11	77
NE532	Dual low-power operational amplifier	DIP8	SO8	IC11	77
NE5410	10-bit high-speed multiplying DAC	CDIP16		IC11	78
NE5512	Dual high-perf. operational amplifier	DIP8	SO8	IC11	77
NE5514	Quad high-perf. operational amplifier	DIP14	SO16L	IC11	77
NE5517	Dual transconductance op-amp	DIP16	SO16L	IC11	78
NE5517A	Dual transconductance op-amp	DIP16		IC11	78
NE5521	LVDT signal conditioner	DIP18	SO16L	IC11	79
NE5532	Dual low-noise operational amplifier	DIP8, CDIP8	SO16L	IC11	77
NE5532A	Dual low-noise operational amplifier	DIP8, CDIP8		IC11	77
NE5533	Dual low-noise operational amplifier	DIP14		IC11	77
NE5533A	Dual low-noise operational amplifier	DIP14	SO16	IC11	77
NE5534	Single low-noise operational amplifier	DIP8, CDIP8	SO8	IC11	77
NE5534A	Single low-noise operational amplifier	DIP8, CDIP8	SO8	IC11	77
NE5537	low-leakage sample-and-hold amplifier	DIP8	SO14	IC11	79

Alphanumeric index

type number	description	package		hand book	page 3–
		through-hole	SMD		
NE5539	350 MHz operational amplifier	DIP14, CDIP14	SO14	IC17	87
NE555	Timer	DIP8, CDIP14	SO8	IC11	79
NE556	Dual timer	DIP14, CDIP14	SO14	IC11	79
NE5560	Switched-mode power supply controller	DIP16	SO16L	IC11	82
NE5561	Switched-mode power supply controller	DIP8	SO8	IC11	82
NE5562	Switched-mode power supply controller	DIP20	SO20	IC11	82
NE5565	Electronic ballast control circuit	DIP20		sales	82
NE5568	Switched-mode power supply controller	DIP8, CDIP8		IC11	82
NE556-1	Dual timer	DIP14, CDIP14		IC11	79
NE5570	Brushless DC motor controller	DIP24	SO24	IC11	81
NE558	Quad timer	DIP16	SO16L	IC11	79
NE5592	Dual 110 MHz video amplifier	DIP14	SO14	IC17	87
NE564	Phase-locked loop	DIP16	SO16	IC11	79
NE566	Function gen., square and triangle wave	DIP8	SO8	IC11	79
NE567	Tone/frequency decoder PLL	DIP8, CDIP14	SO8	IC11	79
NE568A	Phase-locked loop	DIP20	SO20	IC11	79
NE570	Compandor	DIP16, CDIP16		IC17	89
NE571	Compandor	DIP16, CDIP16	SO16L	IC17	89
NE572	Programmable analog compandor	DIP16	SO16L	IC17	89
NE575	Low-voltage dual exp./single compressor	DIP20	SO20, SSOP20	IC03, 17	89
NE5750	Audio processor for RF communication	DIP24	SO24	IC03, 17	88
NE5751	Audio processor for RF communication	DIP24	SO28	IC03, 17	88
NE576	Low-power compandor	DIP14	SO14	IC03, 17	89
NE577	Programmable low-power compandor	DIP14	SO14	IC03, 17	89
NE578	Programmable low-power compandor	DIP16	SO16	IC03, 17	89
NE587	LED decoder/driver	DIP18	SO20	IC11	80
NE590	Addressable peripheral drivers	DIP16		IC11	79
NE591	Addressable peripheral drivers	DIP18		IC11	79
NE592	120 MHz video amplifier	DIP8/14, CDIP14	SO8/14	IC17	87
NE594	Vacuum fluorescent display driver	DIP18, CDIP18	SO20	IC11	80
NE600	1 GHz low-noise amplifier and mixer		SO14	IC03, 17	87
NE602A	Double-balanced mixer and oscillator	DIP8, CDIP8	SO8	IC03, 17	87
NE604A	High-perform. low-power FM IF system	DIP16	SO16	IC03, 17	88
NE605	High-perf. low-power mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
NE612A	Double-balanced mixer and oscillator	DIP8	SO8	IC03, 17	87
NE614A	Low-power FM IF system	DIP16	SO16	IC03, 17	88
NE615	High-perf. low-power mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
NE624	High-performance low-power FM IF system	DIP16	SO16	IC03, 17	88
NE625	High-perf. low-power mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
NE627	High-perf. low-power mixer FM IF syst.	DIP20	SO20, SSOP20	IC03, 17	88
NE630	Single-pole double-throw (SPDT) switch	DIP8	SO8	IC03, 17	89
NE8392C	Coaxial Ethernet transceiver interface	DIP16	PLCC28	IC19	85
NE8392C-2	Coaxial Ethernet transceiver	DIP16	PLCC28	IC19	85
NE83C92	Low-power coaxial Ethernet transceiver	DIP16	PLCC28	IC19	85
NE83Q92	Low-power coaxial Ethernet transceiver	DIP16	SO16L, PLCC28	IC19	85
NE83Q93	Enhanced Coaxial Ethernet transceiver	DIP24	SO24	IC19	85
NE86C92	Twisted-pair Ethernet transc. interface	DIP28	SO28	IC19	85
OM4031	Digital post-detection filter for FSK		SO8	IC03	89
OM4130	CAN evaluation board with 8xC552/82C200			IC20	86
OM4239	CAN evaluation board with 8xC592			IC20	86
OM4240	CAN evaluation board for 8xCE598			IC20	86
OM4272	SLIO evaluation board with 82C150/82C250			IC20	86
OM4871	Evaluation board for the PCA8514/15/16			sales	104
OM4872	Evaluation board for the 84C886			sales	75
OM4873	Evaluation board for the 84C882			sales	75
OM4875	Evaluation board for the 84C122			sales	75

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
OM4877	Evaluation board for the 84C487			sales	75
OM4878	Evaluation board for the PAA8517			sales	104
OM5027	I2C-bus/ LCD demo board			IC12	85, 109
P3C18V8Z35	3 V zero standby power univ. PAL device	DIP20, CDIP20	PLCC20, SO20, SSOP20, TSSOP20	IC13, 24	66
P3C18V8ZI	3 V zero standby power univ. PAL device	DIP20, CDIP20	PLCC20, SO20 SSOP20	IC13, 24	66
P51XAC30	16-bit microcontroller with on-chip CAN		PLCC44, QFP44	IC25	76
P51XAC33	16-bit microcontroller with on-chip CAN		PLCC44, QFP44	IC25	76
P51XAG13	16-bit CMOS microcontroller		PLCC44, LQFP44 CLCC44	IC25	76
P51XAG17	16-bit CMOS microcontroller		PLCC44, LQFP44 CLCC44	IC25	76
P51XAG23	16-bit CMOS microcontroller		PLCC44, LQFP44 CLCC44	IC25	76
P51XAG27	16-bit CMOS microcontroller		PLCC44, LQFP44 CLCC44	IC25	76
P51XAG30	16-bit CMOS microcontroller		PLCC44, LQFP44 CLCC44	IC25	76
P51XAG33	16-bit CMOS microcontroller		PLCC44, LQFP44 CLCC44	IC25	76
P51XAS30	16-bit CMOS microcontroller		QFP80	IC25	76
P51XAS33	16-bit CMOS microcontroller		QFP80	IC25	76
P80C32	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
P80C453	8-bit CMOS microcontroller		PLCC68	IC20	70
P80C52	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
P80C528	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	71
P80C54	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
P80C550	8-bit CMOS microcontroller	DIP40	PLCC44	IC20	71
P80C562	8-bit CMOS microcontroller		PLCC68	sales	72
P80C575	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	72
P80C58	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
P80C592	8-bit CMOS microcontroller		PLCC68	IC20	72
P80C652	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	72
P80C654	8-bit CMOS microcontroller	DIP40, SDIP42	PLCC44, QFP44	IC20	72
P80C851	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	73
P80CE528	8-bit CMOS microcontroller		PLCC44, QFP44	IC20	71
P80CE558	8-bit CMOS microcontroller		TQFP80, QFP80	IC20	71
P80CE559	8-bit CMOS microcontroller		QFP80	IC20	71
P80CE598	8-bit CMOS microcontroller		QFP80	IC20	72
P80CL31	8-bit CMOS microcontroller	DIP40	VSO40, QFP44SL	IC20	73
P80CL410	8-bit CMOS microcontroller	DIP40	VSO40, QFP44SL	IC20	73
P80CL51	8-bit CMOS microcontroller	DIP40	VSO40, QFP44SL	IC20	73
P80CL580	8-bit microcontroller		VSO56, QFP64	IC20	73
P82B715	I2C-bus extender	DIP8	SO8L	IC20	85, 109
P82C150	CAN serial linked I/O device		SO28	DS-IC20	86
P83C055	8-bit CMOS TV microcontroller	SDIP42		IC20	73
P83C145	8-bit CMOS TV microcontroller	SDIP42		sales	73
P83C169	8-bit CMOS TV microcontroller	SDIP52		sales	70
P83C453	8-bit CMOS microcontroller		PLCC68	IC20	70
P83C504	8-bit CMOS microcontroller	DIP40	PLCC44, LQFP44	IC20	71
P83C508	8-bit CMOS microcontroller	DIP40	PLCC44, LQFP44	IC20	71
P83C524	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	71
P83C528	8-bit CMOS microcontroller	DIP40, SDIP42	PLCC44, QFP44	IC20	71
P83C542	ACCESS.bus microcontroller		PLCC44, QFP44	IC20	71
P83C550	8-bit CMOS microcontroller	DIP40	PLCC44	IC20	71

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
P83C562	8-bit CMOS microcontroller		PLCC68	sales	72
P83C575	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	72
P83C576	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	72
P83C592	8-bit CMOS microcontroller		PLCC68	IC20	72
P83C652	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	72
P83C654	8-bit CMOS microcontroller	DIP40, SDIP42	PLCC44, TQFP44 QFP44	IC20	72
P83C748	8-bit CMOS microcontroller	DIP24	PLCC28, SSOP24	IC20	72
P83C749	8-bit CMOS microcontroller	DIP28	PLCC28, SSOP28	IC20	72
P83C750	8-bit CMOS microcontroller	DIP24	PLCC28, SSOP24	IC20	73
P83C845	8-bit CMOS TV microcontroller	SDIP42		sales	73
P83C851	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44 wafer, FFC	IC20	73
P83C852	Secured 8-bit CMOS microcontroller		SO28, FCC, stamp, wafer	sales	92
P83C855	8-bit crypto microcontroller		FCC, wafer	sales	92
P83C858	8-bit CMOS microcontroller			sales	92
P83C864	8-bit IC-card controller		SO28, die, stamp	sales	92
P83C868	Secured 8-bit microcontroller		SO28, FFC, stamp wafer, module	sales	92
P83CE366	8-bit CMOS TV microcontroller	SDIP42		sales	70
P83CE528	8-bit CMOS microcontroller		PLCC44, QFP44	IC20	71
P83CE558	8-bit CMOS microcontroller		TQFP80, QFP80	IC20	71
P83CE559	8-bit CMOS microcontroller		QFP80	IC20	71
P83CE598	8-bit CMOS microcontroller		QFP80	IC20	72
P83CE654	8-bit CMOS microcontroller		QFP44	IC20	72
P83CL410	8-bit CMOS microcontroller	DIP40	VSO40, QFP44SL	IC20	73
P83CL434	8-bit CMOS LCD microcontroller	SDIP42	QFP44SL	sales	73
P83CL580	8-bit CMOS microcontroller		VSO56, QFP64	IC20	73
P83CL781	8-bit CMOS microcontroller	DIP40	QFP44	DS-IC20	74
P83CL782	8-bit CMOS microcontroller	DIP40	QFP44	DS-IC20	74
P83CL834	8-bit CMOS LCD microcontroller	SDIP42	QFP44SL	sales	73
P87C055	8-bit CMOS TV microcontroller	SDIP42		IC20	73
P87C453	8-bit CMOS microcontroller		CLCC68	IC20	70
P87C504	8-bit CMOS microcontroller	DIP40	PLCC44, CLCC44 LQFP44	IC20	71
P87C508	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44 LQFP44	IC20	71
P87C52	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44 QFP44	IC20	70
P87C524	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44 QFP44	IC20	71
P87C528	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44 QFP44	IC20	71
P87C54	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44 QFP44	IC20	70
P87C542	ACCESS.bus microcontroller		PLCC44, CLCC44, QFP44	IC20	71
P87C550	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44	IC20	71
P87C575	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	72
P87C576	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	72
P87C58	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	70
P87C592	8-bit CMOS microcontroller		PLCC68, CLCC68	IC20	72

Alphanumeric index

type number	description	package		hand book	page 3–
		through-hole	SMD		
P87C748	8-bit CMOS microcontroller	DIP24, CDIP24	PLCC28, SSOP24	IC20	72
P87C749	8-bit CMOS microcontroller	DIP28, CDIP28	PLCC28, SSOP28	IC20	72
P87C750	8-bit CMOS microcontroller	DIP24, CDIP24	PLCC28, SSOP24	IC20	73
P87C769	8-bit CMOS TV microcontroller	SDIP52		sales	70
P87CE598	8-bit CMOS microcontroller		QFP80, CQFP80	IC20	72
P87CE766	8-bit CMOS TV microcontroller	SDIP42		sales	70
P87CL134	8-bit LCD microcontroller	SDIP42	QFP44SL	sales	73
P89CE558	8-bit CMOS microcontroller		QFP80	IC20	71
P8xC592	8-bit CMOS microcontroller with CAN bus		PLCC68	IC20	86
P8xC754	8-bit CMOS microcontroller	CDIP28	SSOP28	sales	73
P8xCE598	8-bit CMOS microcontroller with CAN bus		QFP80	IC20	86
P90CE201	16-bit CMOS microprocessor		QFP64	DS-IC21	76
P90CL301	Low-voltage 16-bit microcontroller		LQFP80	DS-IC17	76
PCA1070	Programmable speech transmission circuit	DIP24	SO28	IC03	90
PCA1461	32 kHz watch circuit		PMFP8	IC16	83
PCA1462	32 kHz watch circuit		PMFP8	IC16	83
PCA1463	32 kHz watch circuit		PMFP8	IC16	83
PCA1465	32 kHz watch circuit		PMFP8	IC16	83
PCA1466	32 kHz watch circuit		PMFP8	IC16	83
PCA1467	32 kHz watch circuit		PMFP8	IC16	83
PCA1484	32 kHz watch circuit		PMFP8	IC16	83
PCA1485	32 kHz watch circuit		PMFP8	IC16	83
PCA1486	32 kHz watch circuit		PMFP8	IC16	83
PCA1487	32 kHz watch circuit		PMFP8	IC16	83
PCA1488	32 kHz watch circuit		PMFP8	sales	83
PCA1534	32 kHz clock circuit	DIP8	SO8, FFC	DS-IC16	83
PCA1594	32 kHz watch circuit	DIP8	SO8, FFC	IC16	83
PCA1596	32 kHz watch circuit	DIP8	SO8, FFC	IC16	83
PCA1597	32 kHz watch circuit	DIP8	SO8, FFC	IC16	83
PCA1602	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1603	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1604	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1605	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1606	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1607	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1608	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1611	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1623	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1624	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1625	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1626	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1627	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1628	32 kHz watch circuit		PMFP8	IC16	84
PCA1629	32 kHz watch circuit with EEPROM		PMFP8	IC16	84
PCA1672	32 kHz watch circuit		PMFP8	IC16	84
PCA1673	32 kHz watch circuit		PMFP8	IC16	84
PCA1675	32 kHz watch circuit		PMFP8	IC16	84
PCA1676	32 kHz watch circuit		PMFP8	IC16	84
PCA1677	32 kHz watch circuit		PMFP8	IC16	84
PCA82C250	CAN controller interface	DIP8	SO8	IC20	86
PCA84C122A	8-bit microcontroller for remote control	SDIP24	SO24	DS-IC14	74, 109
PCA84C122B	8-bit microcontroller for remote control	DIP20	SO20	DS-IC14	74, 109
PCA84C222A	8-bit microcontroller for remote control	SDIP24	SO24	DS-IC14	74, 109
PCA84C222B	8-bit microcontroller for remote control	DIP20	SO20	DS-IC14	74, 109
PCA84C422A	8-bit microcontroller for remote control	SDIP24	SO24	DS-IC14	74, 109
PCA84C422B	8-bit microcontroller for remote control	DIP20	SO20	DS-IC14	74, 109

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
PCA84C440	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C441	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C443	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C444	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C622A	8-bit microcontroller for remote control	SDIP24	SO24	DS-IC14	74, 109
PCA84C622B	8-bit microcontroller for remote control	DIL20	SO20	DS-IC14	74, 109
PCA84C622C	8-bit microcontroller for remote control		SO28	DS-IC14	74, 109
PCA84C640	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C641	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C643	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C644	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C646	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C822A	8-bit microcontroller for remote control	SDIP24	SO24	DS-IC14	74, 109
PCA84C822B	8-bit microcontroller for remote control	DIP20	SO20	DS-IC14	74, 109
PCA84C822C	8-bit microcontroller for remote control		SO28	DS-IC14	74, 109
PCA84C840	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C841	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C843	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C844	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C846	8-bit CMOS TV microcontroller, OSD/VST	SDIP42		DS-IC14	75
PCA84C922A	8-bit microcontroller for remote control	SDIP24	SO24	DS-IC14	74, 109
PCA84C922C	8-bit microcontroller for remote control		SO28	DS-IC14	74, 109
PCA84C923A	8-bit microcontroller for remote control	SDIP24	SO24	DS-IC14	74, 109
PCA84C923C	8-bit microcontroller for remote control		SO28	DS-IC14	74, 109
PCA84C923D	8-bit microcontroller for remote control		VSO56	DS-IC14	74, 109
PCA8514	Stand-alone on-screen char. generator	SDIP24	SO24	sales	104
PCA8515	Stand-alone OSD circuit	DIP24	SO24	DS-IC14	104
PCA8516	Stand-alone OSD circuit	DIP24	SO24	DS-IC14	104
PCA8517	Stand-alone on-screen char. generator	DIP16		sales	104
PCA8521	RC-5 remote control circuit	DIP16, DIP20	SO16, SO20	sales	109
PCA8581	128x8-bit EEPROM with I2C-bus	DIP8	SO8	DS-IC12	68
PCA8581C	128x8-bit EEPROM with I2C-bus	DIP8	SO8	DS-IC12	68
PCB2421	128x8-bit dual-mode EEPROM	DIP8	SO8	DS-IC12	68
PCC2008	Stand-alone VAN controller		SO28	sales	86
PCD3310	Pulse and DTMF dialler with redial	DIP20	SO28	IC03	90
PCD3310A	Pulse and DTMF dialler with redial	DIP20	SO28	IC03	90
PCD3311C	DTMF/modem/musical-tone generator	DIP14	SO16L	IC03	90
PCD3312C	DTMF/modem/musical-tone generator	DIP8	SO8L	IC03	90
PCD3330-1	Multistandard repertory dialler/ringer	DIP28	SO28	IC03	90
PCD3332-2	Multistandard pulse/tone dialler/ringer	DIP28	SO28	DS-IC03	90
PCD3332-3	Multistandard pulse/tone dialler/ringer	DIP28	SO28	DS-IC03	90
PCD3332-S	Multistandard rep. pulse/tone dial/ring.	DIP28	SO28	DS-IC03	90
PCD3344A	8-bit CMOS microcontroller	DIP28	SO28	IC03, 14	91
PCD3349A	8-bit CMOS microcontroller	DIP28	SO28	IC03, 14	91
PCD3350A	8-bit CMOS microcontroller		QFP44	IC03, 14	91
PCD3351A	8-bit CMOS microcontroller	DIP28	SO28, TQFP32	IC03, 14	91
PCD3352A	8-bit CMOS microcontroller	DIP28	SO28, TQFP32	IC03, 14	91
PCD3353A	8-bit CMOS microcontroller	DIP28	SO28, TQFP32	IC03, 14	91
PCD3354A	8-bit CMOS microcontroller		QFP44	IC03, 14	91
PCD3359A	8-bit CMOS DTMF microcontroller	DIP28	SO28	sales	91
PCD3360	Programmable multi-tone telephone ringer	DIP16	SO16L	IC03	90
PCD3755A	8-bit CMOS microcontroller	DIP28	SO28, TQFP32	IC03	91
PCD3755E	8-bit CMOS DTMF microcontroller	DIP28	SO28, TQFP32	sales	91
PCD3756A	8-bit CMOS DTMF microcontroller	DIP28		sales	91
PCD4440	Analog voice scrambler/descrambler		SO8L	IC03	90
PCD5002	APOC pager decoder		TQFP32	sales	89

type number	description	package through-hole	SMD	hand book	page 3–
PCD5003	Advanced POCSAG paging decoder		TQFP32, FFC32	DS-IC03	89
PCD5032	ADPCM CODEC for cordless telephone	SO28	QFP44	IC03, 17	88
PCD5040	DECT burst-mode controller		QFP64, TQFP80	IC03, 17	88
PCD5041	DECT burst-mode controller		QFP64REC, TQFP80	IC03	88
PCD5042	DECT burst-mode controller		QFP64, TQFP80	sales	88
PCD5091	DECT single baseband processor		QFP100	sales	88
PCD5092	DECT single baseband processor		QFP100	sales	88
PCD5093	DECT baseband processor		QFP100	sales	88
PCE84C486	8-bit CMOS auto-sync micro for monitor	SDIP32		sales	75
PCE84C487	8-bit CMOS auto-sync micro for monitor	SDIP42		sales	75
PCE84C882	8-bit microcontroller for monitor appl.	SDIP42		sales	75
PCE84C886	8-bit microcontroller for monitor appl.	SDIP42		sales	75
PCF1171C	4.19 MHz digital LCD car clock		VSO40FD, PADS40	IC16	84
PCF1172C	4.19 MHz digital LCD car clock		VSO40FD, PADS40	IC16	84
PCF1174C	4.19 MHz 4-digit static-LCD car clock		VSO40FD, PADS40	IC16	84
PCF1175C	4.19 MHz 4-digit duplex-LCD car clock		SO28, PADS28	IC16	84
PCF1178C	4.19 MHz 4-digit duplex-LCD car clock		SO28, PADS28	IC16	84
PCF1179C	4.19 MHz 4-digit duplex-LCD car clock		SO28	IC16	84
PCF1252-0	Power-fail detector, reset gen. 4.75 V	DIP8	SO8	sales	82
PCF1252-1	Power-fail detector, reset gen. 4.55 V	DIP8	SO8	sales	82
PCF1252-2	Power-fail detector, reset gen. 4.25 V	DIP8	SO8	sales	82
PCF1252-3	Power-fail detector, reset gen. 4.05 V	DIP8	SO8	sales	82
PCF1252-4	Power-fail detector, reset gen. 3.75 V	DIP8	SO8	sales	82
PCF1252-5	Power-fail detector, reset gen. 3.55 V	DIP8	SO8	sales	82
PCF1252-6	Power-fail detector, reset gen. 3.25 V	DIP8	SO8	sales	82
PCF1252-7	Power-fail detector, reset gen. 3.05 V	DIP8	SO8	sales	82
PCF1252-8	Power-fail detector, reset gen. 2.75 V	DIP8	SO8	sales	82
PCF1252-9	Power-fail detector, reset gen. 2.55 V	DIP8	SO8	sales	82
PCF2006	Debit card IC		wafer, FFC, stamp, module	sales	92
PCF2032	Memory card IC		wafer, FFC, stamp, module	sales	92
PCF2036	Secured memory card IC		wafer, FFC, stamp, module	sales	92
PCF2042	Memory card IC		wafer, FFC, stamp, module	sales	92
PCF2100C	LCD duplex driver	DIP28	SO28	IC12	80
PCF2104x	LCD controller/driver		FCC, bumps	IC12	80
PCF2111C	LCD duplex driver	DIP40	VSO40	IC12	80
PCF2112C	Direct LCD driver		VSO40	IC12	80
PCF2113x	LCD controller		LQFP100, FFC	sales	80
PCF2114x	LCD dot matrix controller/driver		LQFP128, FFC	IC12	80
PCF2116x	LCD dot matrix controller/driver		LQFP128, FFC	IC12	80
PCF5001	POCSAG paging decoder		SO28, TQFP32, FFC	IC03	89
PCF5072	GSM baseband & audio interface		LQFP64	IC17	88
PCF5075	Power amp. controller for GSM/PCN syst.		SSOP20	DS-IC03	88
PCF5083	GSM baseband DSP & TDMA timer		LQFP128	IC17	88
PCF79530C	Programmable read/write transponder		stick, coin	sales	92
PCF79531C	Programmable read-only transponder		stick, coin	sales	92
PCF79532C	Programmable read/write transponder		stick, coin	sales	92
PCF79533C	Programmable read-only transponder		stick, coin	sales	92
PCF79535C	Secured program. read/write transponder		stick, coin	sales	92
PCF79730S	Programmable read/write transponder		stick, coin	sales	92
PCF79731S	Programmable read-only transponder		stick, coin	sales	92
PCF79732S	Programmable read/write transponder		stick, coin	sales	92
PCF79733S	Programmable read-only transponder		stick, coin	sales	92

INTEGRATED CIRCUITS

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
PCF79735S	Secured program. read/write transponder		stick, coin	sales	92
PCF7990	Base station for RF-linked transponders		SO20	sales	92
PCF84C12A	8-bit CMOS microcontroller	DIP20	SO20	sales	74
PCF84C21A	8-bit CMOS microcontroller	DIP28	SO28	sales	74
PCF84C22A	8-bit CMOS microcontroller	DIP20	SO20	sales	74
PCF84C41A	8-bit CMOS microcontroller	DIP28	SO28	sales	74
PCF84C42A	8-bit CMOS microcontroller	DIP20	SO20	sales	74
PCF84C81A	8-bit CMOS microcontroller	DIP28	SO28	sales	74
PCF84C85A	8-bit CMOS microcontroller	DIP40	VSO40	sales	74
PCF8522E	256x8-bit CMOS EEPROM with I2C-bus	DIP8		sales	68
PCF8524E	512x8-bit CMOS EEPROM with I2C-bus	DIP8		sales	68
PCF8566	Universal LCD driver for low mux rates	DIP40	VSO40	IC12	80
PCF8568	LCD row driver for dot matrix displays		SO28, FCC	IC12	80
PCF8569	LCD column driver, dot matrix displays		VSO56	IC12	80
PCF8570	256x8-bit CMOS static RAM	DIP8	SO8L	DS-IC12	69
PCF8573	Clock calendar with serial I/O	DIP16	SO16L	IC01, 12	84, 109
PCF8574	Remote 8-bit I/O expander for I2C-bus	DIP16	SO16L, SSOP20, FFC	IC12	85, 109
PCF8574A	Remote 8-bit I/O expander for I2C-bus	DIP16	SO16L	IC12	85, 109
PCF8576	Univ. LCD driver for low multplex rates			sales	80
PCF8576C	Universal LCD driver for low mux rates		VSO56, FCC, LQFP64	IC12	80
PCF8577C	LCD direct/duplex driver	DIP40	VSO40	IC12	80
PCF8578	LCD row/column driver, dot matrix disp.		VSO56, FCC, LQFP64	IC12	80
PCF8579	LCD column driver, dot matrix displays		VSO56, FCC, LQFP64	IC12	80
PCF8583	Clock calendar with 256x8-bit RAM	DIP8	SO8L	IC01, 12	84, 109
PCF8584	Parallel-bus to I2C-bus converter	DIP20	SO20	IC12	85, 109
PCF8591	8-bit AD and DA converter	DIP16	SO16L	DS03, 12	78
PCF8593	Low-power clock calendar	DIP8	SO8	IC12	84, 109
PCx80C31	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
PCx80C51	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
PCx80C552	8-bit CMOS microcontroller		PLCC68, QFP80	IC20	71
PCx82C200	Stand-alone CAN controller	DIP28	SO28	IC20	86
PCx83C552	8-bit CMOS microcontroller		PLCC68, QFP80	IC20	71
PCx85116	2048x8-bit CMOS EEPROM with I2C-bus	DIP8	SO8L	sales	68
PCx8582	256x8-bit CMOS EEPROM with I2C-bus	DIP8	SO8	DS-IC12	68
PCx8594	512x8-bit CMOS EEPROM with I2C-bus	DIP8	SO8	DS-IC12	68
PCx8598	1024x8-bit CMOS EEPROM with I2C-bus	DIP8	SO8	DS-IC12	68
PHD48N22-7	Programmable high-speed decoder		PLCC68	IC13	66
PL22V10I15	CMOS EPLD (EEPROM based)	DIP24	PLCC28, SO24	IC13	66
PL22V10-10	CMOS EPLD (EEPROM based)	DIP24	PLCC28, SO24	IC13	66
PL22V10-12	CMOS EPLD (EEPROM based)	DIP24	PLCC28, SO24	IC13	66
PL22V10-15	CMOS EPLD (EEPROM based)	DIP24	PLCC28, SO24	IC13	66
PLC18V8Z25	Zero standby power CMOS PAL , EPLD	DIP20, CDIP20	PLCC20, SO20, SSOP20, TSSOP20	IC13	66
PLC18V8Z35	Zero standby power CMOS PAL, EPLD	DIP20, CDIP20	PLCC20, SO20, SSOP20, TSSOP20	IC13	66
PLC18V8ZI	Zero standby power CMOS PAL, EPLD	DIP20, CDIP20	PLCC20, SO20, SSOP20	IC13	66
PLC18V8ZIA	Zero standby power CMOS PAL, EPLD	DIP20, CDIP20	PLCC20, SO20, SSOP20	IC13	66
PLC42VA12	CMOS universal EPLD	DIP24, CDIP24	PLCC28	IC13	67
PLHS501	Programmable macro logic PML		PLCC52	IC13	67
PLS100	Programmable logic array	DIP28	PLCC28	IC13	67

INTEGRATED CIRCUITS

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
PLS101	Programmable logic array	DIP28	PLCC28	IC13	67
PLS105	Programmable logic sequencer	DIP28	PLCC28	IC13	67
PLS105A	Programmable logic sequencer	DIP28	PLCC28	IC13	67
PLS153	Programmable logic array	DIP20	PLCC20	IC13	67
PLS153A	Programmable logic array	DIP20	PLCC20	IC13	67
PLS155	Programmable logic sequencer	DIP20	PLCC20	IC13	67
PLS157	Programmable logic sequencer	DIP20	PLCC20	IC13	67
PLS159A	Programmable logic sequencer	DIP20	PLCC20	IC13	67
PLS167	Programmable logic sequencer	DIP24	PLCC28	IC13	67
PLS167A	Programmable logic sequencer	DIP24	PLCC28	IC13	67
PLS168	Programmable logic sequencer	DIP24	PLCC28	IC13	67
PLS168A	Programmable logic sequencer	DIP24	PLCC28	IC13	67
PLS173	Programmable logic array	DIP24	PLCC28	IC13	67
PLS179	Programmable logic sequencer	DIP24	PLCC28	IC13	67
PLUS105-45	Programmable logic sequencer	DIP28, SDIP28	PLCC28	IC13	67
PLUS105-55	Programmable logic sequencer	DIP28, SDIP28	PLCC28	IC13	67
PLUS105-70	Programmable logic sequencer	DIP28, SDIP28	PLCC28	IC13	67
PLUS153B	Programmable logic array	DIP20	PLCC20	IC13	67
PLUS153D	Programmable logic array	DIP20	PLCC20	IC13	67
PLUS153-10	Programmable logic array	DIP20	PLCC20	IC13	67
PLUS16L8D	PAL-type device	DIP20	PLCC20	IC13	66
PLUS16L8-7	PAL-type device	DIP20	PLCC20	IC13	66
PLUS16R4D	Registered PAL-type device	DIP20	PLCC20	IC13	66
PLUS16R4-7	Registered PAL-type device	DIP20	PLCC20	IC13	66
PLUS16R6D	Registered PAL-type device	DIP20	PLCC20	IC13	66
PLUS16R6-7	Registered PAL-type device	DIP20	PLCC20	IC13	66
PLUS16R8D	Registered PAL-type device	DIP20	PLCC20	IC13	66
PLUS16R8-7	Registered PAL-type device	DIP20	PLCC20	IC13	66
PLUS173B	Programmable logic array	DIP24	PLCC28	IC13	67
PLUS173D	Programmable logic array	DIP24	PLCC28	IC13	67
PLUS173-10	Programmable logic array	DIP24	PLCC28	IC13	67
PLUS20L8D	PAL-type device	DIP24	PLCC28	IC13	66
PLUS20L8-7	PAL-type device	DIP24	PLCC28	IC13	66
PLUS20R4D	Registered PAL-type device	DIP24	PLCC28	IC13	66
PLUS20R4-7	Registered PAL-type device	DIP24	PLCC28	IC13	66
PLUS20R6D	Registered PAL-type device	DIP24	PLCC28	IC13	66
PLUS20R6-7	Registered PAL-type device	DIP24	PLCC28	IC13	66
PLUS20R8D	Registered PAL-type device	DIP24	PLCC28	IC13	66
PLUS20R8-7	Registered PAL-type device	DIP24	PLCC28	IC13	66
PLUS405-37	Programmable logic sequencer	DIP28	PLCC28	IC13	67
PLUS405-45	Programmable logic sequencer	DIP28	PLCC28	IC13	67
PLUS405-55	Programmable logic sequencer	DIP28	PLCC28	IC13	67
PML2552-35	CMOS programmable macro logic (EPLD)		PLCC68, CLCC68	IC13	67
PML2552-50	CMOS programmable macro logic (EPLD)		PLCC68, CLCC68	IC13	67
PML2852-35	CMOS programmable macro logic (EPLD)		PLCC84, CLCC84	IC13	67
PML2852-50	CMOS programmable macro logic (EPLD)		PLCC84, CLCC84	IC13	67
PZ3032	3 V EECMOS 32 macrocell zeropwr. CPLD		PLCC44	sales	67
PZ3063	3 V EECMOS 64 macrocell zeropwr. CPLD		PLCC44	sales	67
PZ3064	3 V EECMOS 64 macrocell zeropwr. CPLD		PLCC68	sales	67
PZ3065	3 V EECMOS 64 macrocell zeropwr. CPLD		PLCC84	sales	67
PZ3066	3 V EECMOS 64 macrocell zeropwr. CPLD		QFP100	sales	67
PZ3128	3 V EECMOS 128 macrocell zerop. CPLD		QFP160	sales	67
PZ5032	5 V EECMOS 32 macrocell zerop. CPLD		PLCC44	sales	67
PZ5063	5 V EECMOS 64 macrocell zeropwr. CPLD		PLCC44	sales	67
PZ5064	5 V EECMOS 64 macrocell zeropwr. CPLD		PLCC68	sales	67
PZ5065	5 V EECMOS 64 macrocell zeropwr. CPLD		PLCC84	sales	67

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package		hand book	page 3–
		through-hole	SMD		
PZ5066	5 V EECMOS 64 macrocell zeropwr. CPLD		QFP100	sales	67
PZ5128	5 V EECMOS 128 macrocell zerop. CPLD		QFP160	sales	67
S80C51FA	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP40, QFP44	IC20	70
S80C552	8-bit CMOS microcontroller		PLCC68, QFP80	IC20	71
S80C562	8-bit CMOS microcontroller		PLCC68, QFP80	IC20	72
S80C652	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	72
S80C851	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	73
S83C51FA	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
S83C51FB	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
S83C51FC	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
S83C552	8-bit CMOS microcontroller		PLCC68, QFP80	IC20	71
S83C562	8-bit CMOS microcontroller		PLCC68, QFP80	IC20	72
S83C652	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	72
S83C751	8-bit CMOS microcontroller	DIP24	PLCC28, SSOP24	IC20	73
S83C752	8-bit CMOS microcontroller	DIP28	PLCC28, SSOP28	IC20	73
S83C851	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	73
S83L51FA	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
S83L51FB	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
S87C51FA	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	70
S87C51FB	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	70
S87C51FC	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	70
S87C552	8-bit CMOS microcontroller		PLCC68, CLCC68, QFP80	IC20	71
S87C652	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	72
S87C654	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	72
S87C751	8-bit CMOS microcontroller	DIP24, CDIP24	PLCC28, SSOP24	IC20	73
S87C752	8-bit CMOS microcontroller	DIP28, CDIP28	PLCC28, SSOP28	IC20	73
S87L51FA	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	70
S87L51FB	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	70
SA1458	Dual gen. purpose operational amplifier		SO8	IC11	77
SA1620	Low-voltage GSM front-end transceiver		TQFP48	IC03, 17	88
SA1638	Low voltage IF I/Q transceiver		TQFP48	IC03, 17	88
SA2420	Low-voltage 2.4 GHz RF transceiver		SSOP20	sales	88
SA4558	Dual gen. purpose operational amplifier	DIP8		IC11	77
SA5090	Addressable relay driver	DIP16	SO16L	IC11	79
SA5200	Dual gain stage RF amplifier		SO8	IC03, 17	87
SA5204A	350 MHz wide-band amplifier	DIP8	SO8	IC17	87
SA5205A	600 MHz wide-band amplifier	DIP8	SO8	IC17	87
SA5209	850 MHz variable gain amplifier	DIP16	SO16	IC17	87
SA5211	180 MHz transimpedance amplifier		SO14	IC19	86
SA5212A	140 MHz transimpedance amplifier	DIP8, CDIP8	SO8	IC19	86
SA5214	Fibre-optic post-amplifier		SO20	IC19	86
SA5217	Fibre-optic post-amplifier		SO20	IC19	86
SA5219	700 MHz variable gain amplifier	DIP16	SO16	IC03, 17	87
SA5222	Low-power FDDI transimpedance amplifier		SO8	sales	86
SA5223	165 MHz transimpedance amplifier		SO8	IC19	86
SA5224	FDDI fibre-optic post-amplifier		SO16	IC19	86
SA5225	FDDI fibre-optic post-amplifier		SO16	IC19	86

INTEGRATED CIRCUITS

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
SA5230	Low-voltage operational amplifier	DIP8, CDIP8	SO8	IC11	77
SA5234	Quad low-voltage operational amplifier	DIP14	SO14	IC11	77
SA532	Dual low-power operational amplifier	CDIP8	SO8	IC11	77
SA534	Quad low-power operational amplifier	DIP14, CDIP14	SO14	IC11	77
SA5512	Dual high-performance operational amp.	DIP8	SO8	IC11	77
SA5521	LVDT signal conditioner	DIP18	SO16L	IC11	79
SA5534	Single low-noise operational amplifier	DIP8		IC11	77
SA5534A	Single low-noise operational amplifier		SO8	IC11	77
SA555	Timer	DIP8	SO8	IC11	79
SA556	Dual timer	DIP14		IC11	79
SA5570	Brushless DC motor controller	DIP24		IC11	81
SA568A	Phase-locked loop	DIP20	SO20	IC11	79
SA571	Compandor	DIP16, CDIP16	SO16L	IC17	89
SA572	Programmable analog compandor	DIP16, CDIP16	SO16L	IC17	89
SA575	Low-voltage dual exp./single compressor	DIP20	SO20, SSOP20	IC03, 17	89
SA5750	Audio processor for RF communication	DIP24	SO24	IC03, 17	88
SA5751	Audio processor for RF communication	DIP24	SO28	IC03, 17	88
SA5752	Audio processor for RF communication	DIP20	SO20, SSOP20	IC03, 17	88
SA5753	Audio processor for RF communication	DIP20	SO20, SSOP20	IC03, 17	88
SA576	Low-power compandor	DIP14	SO14	IC03, 17	89
SA577	Programmable low-power compandor	DIP14	SO14	IC03, 17	89
SA578	Programmable low-power compandor	DIP16	SO16	IC03, 17	89
SA594	Vacuum fluorescent display driver	DIP18, CDIP18		IC11	80
SA600	1 GHz low-noise amplifier and mixer		SO14	IC03, 17	87
SA601	1 GHz low-voltage LNA and mixer		SSOP20	IC03, 17	87
SA602A	Double-balanced mixer and oscillator	DIP8, CDIP8	SO8	IC03, 17	87
SA604A	High-perform. low-power FM IF system	DIP16	SO16	IC03, 17	88
SA605	High-perf. low-power mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA606	Low-volt. high-perf. mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA607	Low-volt. high-perf. mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA608	Low-volt. high-perf. mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA612A	Double-balanced mixer and oscillator	DIP8	SO8	IC03, 17	87
SA614A	Low-power FM IF system	DIP16	SO16	IC03, 17	88
SA615	High-perf. low-power mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA616	Low-volt. high-perf. mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA617	Low-volt. high-perf. mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA620	1 GHz low-voltage LNA, mixer and VCO		SSOP20	IC03, 17	87
SA621	Low-voltage 1 GHz LNA, mixer and VCO		SSOP20	sales	87
SA624	High-performance low-power FM IF system	DIP16	SO16	IC03, 17	88
SA625	High-perf. low-power mixer FM IF system	DIP20	SO20, SSOP20	IC03, 17	88
SA626	Low-voltage high-perf. mixer FM IF syst.		SO20, SSOP20	IC03, 17	88
SA627	High-perf. low-power mixer FM IF syst.	DIP20	SO20, SSOP20	IC03, 17	88
SA630	Single-pole double-throw (SPDT) switch	DIP8	SO8	IC03, 17	89
SA636	Low-voltage high-perf. mixer FM IF syst.		SO20, SSOP20	IC03, 17	88
SA637	Low-voltage digital IF receiver		SSOP20	IC03, 17	88
SA639	Low-voltage mixer FM IF sys, filter amp.		TSSOP24	IC03, 17	88
SA676	Low-voltage mixer FM IF system		SO20, SSOP20	IC17	88
SA701	Devide by 128/129 - 64/65 ECL prescaler	DIP8	SO8	IC03, 17	87
SA702	Devide by 64/65/72 ECL prescaler	DIP8	SO8	IC03, 17	87
SA7025	Low-voltage 1 GHz fract.-N synthesizer		SSOP20	IC03, 17	87
SA703	Devide by 128/129/144 ECL prescaler	DIP8	SO8	IC03, 17	87
SA741C	General purpose operational amplifier	DIP8		IC11	77
SA8025A	Low-voltage 2 GHz fract.-N synthesizer		SSOP20	IC03, 17	87
SA900	I/Q transmit modulator		TQFP48	IC03, 17	89
SAA1029	Universal industrial logic interface	DIP16		sales	79
SAA1057	Radio tuning PLL frequency synthesizer	DIP18		IC01	94

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
SAA1064	4-digit LED driver with I2C-bus	DIP24	SO24	IC02	80
SAA1101	Universal sync generator (USG)	DIP28	SO28	IC02	104
SAA1300	5 high-current outputs	SIL9		IC01	85, 94, 109
SAA1310	Control interface for VHS recorders	DIP18	SO20	IC02	107
SAA1500	Battery state-of-charge indicator		SO20	IC11	82
SAA1501	Battery state-of-charge indicator		SO24	DS-IC11	82
SAA2002	Stereo filter and CODEC		QFP44	IC01	98
SAA2003	Stereo filter CODEC		QFP44	IC01	98
SAA2012	Adaptive allocation and scaling for DCC		QFP44	IC01	98
SAA2013	PASC coder in DCC systems		QFP44	IC01	98
SAA2022	Tape formatting and error corr. for DCC		QFP64	IC01	98
SAA2023	Drive processor for DCC systems		QFP80, TQFP80	IC01	98
SAA2032	Digital equalization for tape proc. DCC		QFP44	IC01	98
SAA2500	ISO/MPEG layer 1, 2 audio source decoder		QFP44	IC01	98
SAA2501	ISO/MPEG audio source decoder		QFP44	DS-IC01	98
SAA2502	Improved ISO/MPEG layer 1 and 2 decoder		QFP44	sales	98
SAA2510	Video-CD MPEG-audio/video decoder		QFP100	sales	97
SAA2520	Stereo filter codec		QFP44	IC01	98
SAA2521	Masking threshold processor		QFP44	IC01	98
SAA2530	ADR/DMX digital receiver		QFP44	sales	95
SAA3049A	IR remote control decoder	DIP20	SO20	sales	109
SAA3300	One-chip DCC signal processor		TQFP80	sales	98
SAA3323	Drive processor for DCC systems		QFP80, TQFP80	IC01	98
SAA4700	VPS dataline processor	DIP18	SO20	IC02	107
SAA4940	Noise reduction IC		QFP80	IC02	104
SAA4945	LIMERIC line memory based noise reduct.		QFP44	sales	104
SAA4951	Memory controller		PLCC44	DS-IC02	104
SAA4952	Memory controller		PLCC44	sales	104
SAA4960	PAL combfilter	DIP28		sales	102
SAA4961	Multistandard combfilter	DIP28		sales	102
SAA4970	Economical video processing IC		VSO56	sales	102
SAA4981	Monolithic integrated 16:9 compressor	DIP24	SO24	DS-IC02	102
SAA4990	Progressive scan-zoom and noise red. IC		QFP80	sales	104
SAA4991	MEZONIC movement estimation for 100 Hz		PLCC84	sales	104
SAA4995	PANorama-IC		PLCC44	sales	104
SAA5191	Teletext video processor	DIP28		IC02, 22	105
SAA5231	Teletext video processor	DIP28		IC02, 22	105
SAA5233	VPS/PDC decoder	DIP16	SO20	IC02	107
SAA5244A	Integrated VIP and teletext	DIP40, SDIP42	QFP44	IC02	105
SAA5246AE	Integrated VIP and teletext	DIP48, SDIP52	QFP64	IC02	105
SAA5246AH	Integrated VIP and teletext	DIP48, SDIP52	QFP64	IC02	105
SAA5246AK	Integrated VIP and teletext	DIP48, SDIP52	QFP64	IC02	105
SAA5246AL	Integrated VIP and teletext	DIP48, SDIP52	QFP64	IC02	105
SAA5246AS	Integrated VIP and teletext	DIP48, SDIP52	QFP64	IC02	105
SAA5246AT	Integrated VIP and teletext	DIP48, SDIP52	QFP64	IC02	105
SAA5249E	Integrated VIP and teletext	DIP48	QFP64	IC02	105
SAA5249H	Integrated VIP and teletext	DIP48	QFP64	IC02	105
SAA5249T	Integrated VIP and teletext	DIP48	QFP64	IC02	106
SAA5250	Multistd teletext control interface	DIP40	VSO40	IC02, 22	106
SAA5252	Line 21 decoder	DIP24	SO24	IC02, 22	106
SAA5254E	Integrated VIP and teletext	DIP40	QFP44	IC02	106
SAA5254H	Integrated VIP and teletext	DIP40	QFP44	IC02	106
SAA5254T	Integrated VIP and teletext	DIP40	QFP44	IC02	106
SAA5270	Teletext and OSD decoder		PLCC68	sales	106
SAA5281E	Integr. video input proc./teletext dec.	DIP48, SDIP52	QFP64	IC02	106
SAA5281H	Integr. video input proc./teletext dec.	DIP48, SDIP52	QFP64	IC02	106

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
SAA5281K	Integr. video input proc./teletext dec.	DIP48, SDIP52	QFP64	sales	106
SAA5281L	Integr. video input proc./teletext dec.	DIP48, SDIP52	QFP64	sales	106
SAA5281R	Integr. video input proc./teletext dec.	DIP48, SDIP52	QFP64	sales	106
SAA5281T	Integr. video input proc./teletext dec.	DIP48, SDIP52	QFP64	IC02	106
SAA5290	One-chip tuning and text	SDIP52		IC02	106
SAA5296	One-chip tuning and text	SDIP52	QFP80	IC22	106
SAA5301	Japanese MOSI teletext decoder		QFP64	IC02	106
SAA5495	One-chip tuning and text		QFP80	sales	106
SAA5496	One-chip tuning and text	SDIP52		sales	106
SAA5700	CEST (Chinese Teletext) decoder		QFP64	sales	106
SAA6579	Radio data system demodulator (RDS)		SO16L	IC01	94
SAA7110A	One-chip frontend; 2 x ADC and CGC		PLCC68	IC22	107
SAA7111	Video input processor (VIP)		PLCC68	IC22	107
SAA7111A	Video input processor (VIP)		PLCC68, TQFP64	sales	107
SAA7131	Full MPEG1 video and audio decoder		QFP160	IC22	107
SAA7140B	High-performance scaler (HPS)		QFP120, TQFP128	IC22	108
SAA7145	Multimedia PCI bridge		QFP160	IC22	108
SAA7146	Multimedia bridge scaler and PCI bus		QFP208	IC22	108
SAA7151B	Digital multi-std decoder with SCART		PLCC68	IC02, 22	107
SAA7157	Clock signal generator for digital TV	DIP20	SO20	IC02, 22	108
SAA7158	Back-end IC for TV memory-based feat.		PLCC68	IC02	104
SAA7165	Video enhancement and D/A processor		PLCC44	IC02, 22	108
SAA7167	YUV-to-RGB D/A converter (DAC)		TQFP48	IC22	108
SAA7182	Digital video encoder (EURO-DENC)		PLCC84	DS-IC22	107
SAA7183	Digital video encoder (EURO-DENC)		PLCC84	DS-IC22	107
SAA7184	Digital video encoder (DENC2-M6)		PLCC68	IC22	108
SAA7185	Digital video encoder		PLCC68	DS-IC02	108
SAA7186	Digital video scaler		QFP100	IC02, 22	108
SAA7187	Digital video encoder (DENC2-SQ)		PLCC68	DS-IC22	108
SAA7188A	Digital video encoder (DENC2-M)		PLCC68	DS-IC22	108
SAA7191B	Digital multi-standard colour decoder		PLCC68	IC02, 22	107
SAA7192A	Digital colour space converter		PLCC68	IC22	108
SAA7195A	Video memory controller (VMC)		QFP160	sales	108
SAA7196	Digital multistandard decoder		QFP120	IC22	107
SAA7197	Clock-signal generator for DTV	DIP20	SO20	IC02, 22	108
SAA7199B	Digital video encoder		PLCC84	IC02, 22	108
SAA7200	MPEG2 video decoder		QFP160	sales	106
SAA7201	MPEG2 video/audio/OSD decoder		QFP160	sales	106
SAA7205	MPEG2 demultiplexer; DVB compliant		QFP128	sales	106
SAA7206	DVB descrambler		QFP64, QFP120	sales	106
SAA7207	R/S-FEC for cable; DVB compliant		QFP44	sales	106
SAA7282	NICAM decoder including audio DACs	SDIP32	QFP44	IC02	102
SAA7283	NICAM decoder with demod. and DACs	SDIP52	QFP64	sales	102
SAA7345	CMOS decoder for CD systems		QFP44	IC01	97
SAA7345/LV	CMOS decoder for CD systems		TQFP44	sales	97
SAA7345/SS	CMOS decoder for CD systems		QFP44	sales	97
SAA7345/TT	CMOS decoder for CD systems		QFP44	sales	97
SAA7346	CD shock absorbing RAM addresser		QFP44	IC01	98
SAA7360	Bitstream conversion ADC		QFP44	DS-IC01	99
SAA7361	Premium grade bitstream ADC		QFP44	sales	99
SAA7366	Bitstream conversion ADC		SO24	IC01, 22	99
SAA7367	Economy bitstream ADC		SO24	sales	99
SAA7370	Quadruple speed single chip CD-decoder		QFP64	sales	97
SAA7372	Double speed single chip CD-decoder		QFP64	sales	97
SAA7374	Digital servo processor and CD-decoder		QFP64	sales	97
SAA7376	Single speed single chip CD-decoder		QFP64	sales	97

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
SAA7380	Quadruple speed CD-ROM block decoder		QFP80	sales	97
SAA7382	Double speed CD-ROM blockdecoder		QFP80	sales	97
SAA7385	High-speed CD-ROM blockdecoder		QFP128	sales	97
SAA7390	High-speed blockdecoder/encoder for CD		QFP128	sales	97
SAA7500	Dig. satellite radio tuner dec. (SAT-2)		PLCC68	IC01	95
SAA7501	Digital satellite radio broadcasting crt		PLCC68	IC01	95
SAA7707	Car DSP circuit		QFP80	sales	98
SAA7710	Dolby prologic DSP		SO32	sales	98
SAA7740	Digital audio processing circuit		QFP64	IC01	98
SAB6456A	1.3 GHz devide-by-64/256 prescaler	DIP8	SO8	sales	100
SAB6457A	Devide-by-64/256 prescaler	DIP8		sales	100
SAB9075	Picture-in-picture controller for NTSC		QFP100	IC02	104
SC26C198	Octal univ. asyn. rec./transm. (UART)		PLCC84	IC19	85
SC26C198x1	Octal CMOS UART		PLCC48	sales	85
SC26C562	Dual univ. serial comm. contr. (CDUSCC)	DIP48	PLCC52	IC19	85
SC26C92	Dual univ. asyn. rec./transm. (DUART)	DIP40	PLCC44	IC19	85
SC26C94	Quad univ. asyn. rec./transm. (QUART)	DIP48	PLCC52	IC19	85
SC26L198x1	Octal CMOS UART		PLCC48	sales	85
SC28C194x1	Quad 5 Volt CMOS UART		PLCC68	sales	85
SC28L194	Quad UART with TLL compatibility		PLCC68, LQFP80	IC19	85
SC28L194x1	Quad 3.3 Volt CMOS UART		PLCC68, LQFP80	sales	85
SC68C198x1	Octal CMOS UART		PLCC48	sales	85
SC68C562	Dual univ. serial comm. contr. (CDUSCC)	DIP48	PLCC52	IC19	85
SC68C94	Quad univ. asyn. rec./transm. (QUART)	DIP48	PLCC52	IC19	85
SC68L198x1	Octal CMOS UART		PLCC48	sales	85
SC80C31	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
SC80C451	8-bit CMOS microcontroller		PLCC68	IC20	70
SC80C51	8-bit CMOS microcontroller	DIP40	PLCC44, QFP44	IC20	70
SC83C451	8-bit CMOS microcontroller		PLCC68	IC20	70
SC87C451	8-bit CMOS microcontroller		PLCC68	IC20	70
SC87C51	8-bit CMOS microcontroller	DIP40, CDIP40	PLCC44, CLCC44, QFP44	IC20	70
SCC2691	Univ. asyn. receiver/transmitter (UART)	DIP24	SO24, PLCC28	IC19	85
SCC2692	Dual asyn. receiver/transm. (DUART)	DIP28/40,CDIL28/40	PLCC44	IC19	85
SCC2698B	Octal asyn. rec./transm. (octal UART)	DIP64	PLCC84	IC19	85
SCC66470/03	Video and system controller		QFP120	DS-IC21	76
SCC68070	16/32-bit CMOS microcontroller		PLCC84, QFP120	DS-IC21	76
SCC68692	Dual asyn. receiver/transm. (DUART)	DIP40, CDIL40	PLCC44	IC19	85
SCN2651	Programmable comm. interface (PCI)	DIP28		IC19	85
SCN2652	Multi-protocol comm. controller (MPCC)	DIP40, CDIL40	PLCC44	IC19	85
SCN26562	Dual univ. serial comm. contr. (DUSCC)	DIP48	PLCC52	IC19	85
SCN2661	Enhanced prog. comm. interface (EPCI)	DIP28, CDIL28	PLCC28	IC19	85
SCN2681	Dual asyn. receiver/transm. (DUART)	DIP24/28/40,CDIL28	PLCC44	IC19	85
SCN2681T	Dual asyn. receiver/transm. (DUART)	DIP40	PLCC44	IC19	85
SCN68562	Dual univ. serial comm. contr. (DUSCC)	DIP48	PLCC52	IC19	85
SCN68652	Multi-protocol comm. controller (MPCC)	DIP40, CDIP40	PLCC44	IC19	85
SCN68681	Dual asyn. receiver/transm. (DUART)	DIP40, CDIL40	PLCC44	IC19	85
SE4558	Dual gen. purpose operational amplifier	DIP8		IC11	77
SE5018	8-bit microprocesor-compatible DAC	DIP22, CDIP22		IC11	78
SE5019	8-bit microprocessor-compatible DAC	DIP22		IC11	78
SE5205A	600 MHz wide-band amplifier	DIP8		IC17	87
SE521	High-speed dual diff. comp./sense ampl.	CDIP14		IC11	79
SE531	High slew rate operational amplifier	CDIP8		IC11	77
SE532	Dual low-power operational amplifier	DIP8, CDIP8		IC11	77
SE5410	10-bit high-speed multiplying DAC	CDIP16		IC11	78
SE5512	Dual high-performance op amp	DIP8		IC11	77

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
SE5514	Quad high-performance operational amp.	DIP14		IC11	77
SE5521	LVDT signal conditioner	CDIP18		IC11	79
SE5532	Dual low-noise operational amplifier	CDIP8		IC11	77
SE5532A	Dual low-noise operational amplifier	CDIP8		IC11	77
SE5534	Single low-noise operational amplifier	DIP8, CDIP8		IC11	77
SE5534A	Single low-noise operational amplifier	DIP8, CDIP8		IC11	77
SE5537	Low-leakage sample-and-hold amplifier	CDIP8		IC11	79
SE5539	350 MHz operational amplifier	CDIP14		IC17	87
SE555	Timer	CDIP8/14, DIP14		IC11	79
SE555C	Timer	CDIP8/14, DIP14		IC11	79
SE556	Dual timer	DIP14, CDIP14		IC11	79
SE5560	Switched-mode power supply controller	DIP16, CDIP16		IC11	82
SE5561	Switched-mode power supply controller	DIP8, CDIP8		IC11	82
SE5562	Switched-mode power supply controller	CDIP20		IC11	82
SE564	Phase-locked loop	DIP16		IC11	79
SE566	Function gen., square and triangle wave	DIP8		IC11	79
SE567	Tone/frequency decoder PLL	DIP8, CDIP8	SO8	IC11	79
SG3524	Switched-mode power supply controller	DIP16, CDIP16	SO16	IC11	82
TBA120U	TV sound IF amplifier and demodulator	DIP14		IC02	101
TCA520B	Low-power/low-voltage op-amp	DIP8		sales	77
TCA520D	Low-power/low-voltage op-amp		SO8	sales	77
TDA1001B	Interference and noise suppr. for FM rec	DIP16	SO16	IC01	95
TDA1010A	6 W audio power amplifier	SIL9MP		IC01	96
TDA1011	2 to 6 W audio power amp. with pre-amp.	SIL9MP		IC01	96
TDA1013B	4 W audio power amplifier	SIL9MP		IC01	96
TDA1015	1 to 4 W audio power amplifier	SIL9MP		IC01	96
TDA1015T	0.5 W audio power amplifier		SO8	IC01	96
TDA1016	Recording/playback and 2 W amplifier	DIP16		IC01	96
TDA1020	12 W car radio audio power amplifier	SIL9MP		IC01	96
TDA1023	Proportional-control triac trig. circuit	DIP16	SO16	IC02	82
TDA1029	Signal-sources switch	DIP16		IC01	95
TDA1060	Control circuit for SMPS	DIP16	SO16	sales	82
TDA1060A	Control circuit for SMPS	DIP16		sales	82
TDA1060B	Control circuit for SMPS	CDIP16		sales	82
TDA1072A	AM receiver circuit	DIP16	SO16	IC01	94
TDA1074A	Dual tandem electronic potentiometer	DIP18		IC01	95
TDA1300	Photodetector amplifier and laser supply		SO24	DS-IC01	97
TDA1301	Digital servo processor for CD systems		SO28	IC01	97
TDA1302	Diode amplifier laser power control		SO24	IC01	97
TDA1303	Digital servo driver		SO24	IC01	97
TDA1305	Bitstream CC filter DAC		SO28	IC01, 22	98
TDA1305A	Bitstream CC filter DAC		SO28	sales	98
TDA1306	Noise shaping filter DAC		SO24	IC01, 22	98
TDA1307	High-performance bitstream dig. filter	SDIP42		IC01	98
TDA1308	Class AB stereo headphone driver		SO8	IC01	96
TDA1309	Low-voltage AD/DA converter		QFP44	DS-IC01	99
TDA1310A	Stereo continuous calibration DAC	DIP8	SO8	IC01	98
TDA1311A	Stereo continuous calibration DAC	DIP8	SO8	IC01	98
TDA1312A	Stereo continuous calibration DAC	DIP8	SO8	IC01	98
TDA1313	Stereo continuous calibration DAC	DIP16	SO16	IC01	98
TDA1314	Quad filter DAC		SO28	IC01	98
TDA1315	Digital audio input/output circuit		QFP44	DS-IC01	98
TDA1316	DCC write amplifier		SO24	sales	98
TDA1317	DCC read amplifier		QFP44	DS-IC01	98
TDA1318	DCC read amplifier		QFP44S10	IC01	98
TDA1319	DCC write amplifier		SO24	IC01	98

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
TDA1373	General digital input (GDIN)		QFP64	DS-IC01	98
TDA1380	DCC read amplifier		SQFP64	IC01	98
TDA1381	DCC write amplifier		TQFP48	IC01	98
TDA1383	DCC record/playback amplifier (RW4)		LQFP48	DS-IC01	98
TDA1386	Bitstream continuous calibration DAC		SO24	IC01	99
TDA1387	Stereo continuous calibration DAC		SO8	IC01	99
TDA1510AQ	24 W BTL or 2x12 W stereo car amp.	DBS13		IC01	96
TDA1514A	50 W high-performance hi-fi amplifier	SIL9P		IC01	96
TDA1515BQ	24 W BTL, 2x12 W audio power amplifier	DBS13		IC01	96
TDA1516BQ	22 W BTL, 2x11 W audio power amplifier	DBS13		IC01	96
TDA1516CQ	22 W BTL car radio power amplifier	DBS13		IC01	96
TDA1517	2x6 W stereo car radio power amplifier	SIL9MPF, HDIP18		DS-IC01	96
TDA1518BQ	22 W BTL, 2x11 W audio power amplifier	DBS13		IC01	96
TDA1519	2x6 W stereo car radio power amplifier	SIL9		IC01	96
TDA1519A	22 W BTL, 2x11 W audio power amplifier	SIL9		IC01	96
TDA1519B	12 W BTL, 2x6 W audio power amplifier	SIL9		IC01	96
TDA1521	2x12 W hi-fi audio power amplifier	SIL9		IC01	96
TDA1521A	2x6 W hi-fi audio power amplifier	SIL9		IC01	96
TDA1521AQ	2x6 W hi-fi audio power amplifier	SIL9		IC01	96
TDA1521Q	2x12 W hi-fi audio power amplifier	DBS9		IC01	96
TDA1522	Stereo cassette head-amplifier	SIL9		sales	95
TDA1523	Stereo head-amplifier and equalizer	DIP14		sales	95
TDA1524A	Stereo tone/volume control circuit	DIP18		IC01	95
TDA1526	Stereo tone/volume control circuit	DIP18		IC01	95
TDA1541A	Dual 16-bit DAC	DIP28		IC01	99
TDA1541A/S1	Dual 16-bit DAC	DIP28		IC01	99
TDA1541A/S2	Dual 16-bit DAC	DIP28		sales	99
TDA1543	Dual 16-bit DAC	DIP8		IC01	99
TDA1545A	Stereo continuous calibration DAC	DIP8	SO8	IC01	99
TDA1546	Filter DSP bitstream conversion DAC		SO28	DS-IC01	99
TDA1547	Dual top-performance bitstream DAC	SDIP32		IC01	99
TDA1548	Low power DSP bitstream conversion DAC		SO28, SSOP28	DS-IC01	99
TDA1549	Bitstream continuous calibration DAC	DIP16	SO16	IC01	99
TDA1551Q	2x22 W BTL audio power amplifier	DBS17		IC01	96
TDA1552Q	2x22 W BTL audio power amplifier	DBS13		IC01	96
TDA1553CQ	2x22 W stereo BTL power amplifier	SIL13		IC01	96
TDA1553Q	2x22 W BTL audio power amplifier	DBS13		IC01	96
TDA1554Q	4x11 W or 2x22 W audio power amplifier	DBS17		IC01	96
TDA1555Q	4x11 W or 2x22 W audio power amplifier	DBS17		IC01	96
TDA1556Q	2x22 W stereo BTL differential amplifier	DBS17		IC01	96
TDA1557Q	2x22 W BTL audio power amplifier	DBS13		IC01	96
TDA1558Q	4x11 W or 2x22 W audio power amplifier	DBS17		IC01	96
TDA1560Q	40 W car radio high power amplifier	DBS17P		DS-IC01	96
TDA1561Q	2x23 W car radio power amplifier	DBS13P		DS-IC01	96
TDA1562Q	70 W class-H radio power amplifier	DBS17		sales	96
TDA1572	AM receiver	DIP18	SO20	IC01	94
TDA1574	FM tuner for radio receivers	DIP18	SO20	IC01	94
TDA1575	FM tuner for radio receivers		SO16	IC01	94
TDA1576	FM/IF amplifier and demodulator	DIP18	SO20	IC01	94
TDA1579	Decoder for traffic warning (VWF)	DIP18	SO20	IC01	94
TDA1581	Decoder for traffic warning (VWF)		SO20	IC01	94
TDA1591	PLL stereo decoder and noise blanker	DIP20	SO20	IC01	95
TDA1592	PLL stereo decoder and noise blanker	DIP20	SO20	IC01	95
TDA1596	FM/IF amplifier and demodulator	DIP18	SO20	IC01	94
TDA1597	FM/IF amplifier and demodulator	DIP18	SO20	IC01	94
TDA1599	FM/IF amplifier and demodulator	DIP18	SO20	IC01	94

type number	description	package through-hole	package SMD	hand book	page 3–
TDA1602A	Double-deck playback/record IC	DIP40		IC01	95
TDA2545A	Quasi-split-sound circuit	DIP16		IC02	101
TDA2546A	Quasi-split-sound circuit	DIP18		IC02	101
TDA2549	IF amp. and demodul. for multist. TV	DIP24		IC02	100
TDA2555	Dual TV sound demodulator	DIP18		IC02	101
TDA2556	Quasi-split-sound circuit	DIP24		sales	101
TDA2557	Dual TV sound demodulator	DIP18		IC02	101
TDA2579B	Horizontal/vertical sync circuit	DIP18		IC02	104
TDA2579C	Horizontal/vertical sync circuit	DIP18		IC02	104
TDA2595	Horizontal combination	DIP18		IC02	104
TDA2611A	5 W audio power amplifier	SIL9		IC01	96
TDA2613	6 W hi-fi audio power amplifier	SIL9		IC01	96
TDA2614	6 W hi-fi audio power amplifier	SIL9MP		IC01	96
TDA2615	2x6 W hi-fi audio power amplifier	SIL9MPF		DS-IC01	96
TDA2616	2x12 W hi-fi audio power amplifier	SIL9P		IC01	96
TDA2616Q	2x12 W hi-fi audio power amplifier	DBS9P		IC01	96
TDA3504	PAL/SECAM video control combination	DIP20		IC02	102
TDA3505	PAL/SECAM video control combination	DIP28		IC02	102
TDA3506	PAL/SECAM video control combination	DIP28		IC02	102
TDA3508	Video control combination circuit	DIP28		IC02	102
TDA3561A	PAL decoder	DIP28		IC02	102
TDA3565	PAL decoder	DIP18		IC02	102
TDA3566A	PAL/NTSC decoder	DIP28		IC02	102
TDA3567	NTSC decoder	DIP18		IC02	102
TDA3592A	SECAM-PAL transcoder	DIP24		IC02	102
TDA3601AQ	Multiple-output voltage regulator	DBS13P		IC01	82
TDA3601Q	Multiple-output voltage regulator	DBS13P		IC01	82
TDA3602	Multiple-output voltage regulator	SIL9MP		IC01	82
TDA3603	Multiple voltage regulator with switch	SIL9MPF, HDIP18		DS-IC01	82
TDA3604	Multiple voltage regulator, reset/switch	DBS13P		DS-IC01	82
TDA3605	5 V regul. with reset and battery in/out	DBS13P		sales	82
TDA3606	5 V regulator with reset and battery i/o		SO8	sales	82
TDA3607	3 independent switchable voltage regul.	SIL9P		sales	82
TDA3653B	Vertical deflection and guard circuit	SIL9		IC02	104
TDA3653C	Vertical deflection and guard circuit	SIL9		IC02	104
TDA3654	Vertical deflection and guard circuit	SIL9		IC02	104
TDA3654Q	Vertical deflection and guard circuit	SBD9		IC02	104
TDA3755	PAL/NTSC/SECAM sync. processor	DIP18		IC02	107
TDA3803A	TV stereo/dual sound decoder	DIP28		IC02	102
TDA3810	Spatial, stereo and pseudo-stereo crt.	DIP18		IC02	102
TDA3827	TV-sound demodulator	DIP18		IC02	101
TDA3833	BTSC-stereo/SAP/DBX dec., DBX exp.	SDIP32	SO32	IC02	102
TDA3840	TV IF amplifier and demodulator	DIP20	SO20	IC02	100
TDA3842	Multist. TV IF amp. and demodulator	DIP20	SO20	IC02	100
TDA3843	TV AM-sound IF circuit	DIP16		IC02	101
TDA3845	Quasi-split-sound circuit	DIP16	SO16	IC02	101
TDA3851	Multist. TV IF amp. and demodulator	SDIP24		sales	100
TDA3852	Multist. TV IF amp. and demodulator	DIP20		sales	100
TDA3853	TV IF amplifier and demodulator		SO20	IC02	100
TDA3856	Quasi-split-sound circuit	SDIP24	SO24	IC02	101
TDA3857	Quasi-split-sound circuit	DIP20		IC02	101
TDA3858	Quasi-split-sound circuit	SDIP32		IC02	101
TDA3866	Quasi-split-sound circuit	SDIP24		IC02	101
TDA3867	Quasi-split-sound circuit		SO28	IC02	101
TDA3868	Quasi-split-sound circuit		SO28	IC02	101
TDA4501	CTV small signal combination circuit	DIP28		sales	105

Alphanumeric index

type number	description	package through-hole	package SMD	hand book	page 3–
TDA4504B	Small signal combi for multistandard TV	DIP32		IC02	105
TDA4505E	CTV small signal combination circuit	DIP28		sales	105
TDA4510	PAL decoder	DIP16		IC02	102
TDA4555	Multistandard TV decoder	DIP28		IC02	102
TDA4556	Multistandard TV decoder	DIP28		IC02	102
TDA4557	Multistandard TV decoder	DIP28		IC02	102
TDA4565	Colour transient improvement circuit	DIP18		IC02	102
TDA4566	Colour transient improvement circuit	DIP18		IC02	102
TDA4568	Luminance signal delay circuit	DIP18		IC02	102
TDA4570	NTSC decoder	DIP16		IC02	102
TDA4580	Video control combination	DIP28		IC02	102
TDA4632	SECAM decoder	DIP28		IC02	102
TDA4650	Multistandard TV colour decoder	DIP28		IC02	102
TDA4651	Multistandard colour decoder	DIP28	PLCC28	DS-IC02	102
TDA4655	Multistandard TV colour decoder	SDIP24	SO24	IC02	102
TDA4657	PAL/SECAM colour decoder	DIP20	SO20	IC02	102
TDA4661	Baseband delay line	DIP16	SO16	IC02	102
TDA4662	Baseband delay line	DIP16	SO16	IC02	102
TDA4663	1H delay line (only)		SO16	sales	102
TDA4665	Baseband delay line	DIP16	SO16	IC02	103
TDA4670	Picture signal improvement circuit (PSI)	DIP18		IC02	103
TDA4671	Picture signal improvement circuit (PSI)	DIP18		IC02	103
TDA4672	Picture signal improvement (PSI) circuit	DIP18		IC02	103
TDA4680	Video processor	DIP28	PLCC28	IC02, 22	103
TDA4681	Video processor	DIP28	PLCC28	sales	103
TDA4685	Video processor	DIP28		IC02	103
TDA4686	Video processor	DIP28	PLCC28	IC02, 22	103
TDA4687	Video processor	DIP28		sales	103
TDA4688	Video processor	DIP28		IC02	103
TDA4691	Sync processor with clock	DIP20	SO20	IC02	104
TDA4722	SECAM-L chrominance processor	SDIP32		IC02	107
TDA4724	SECAM-L chrominance processor	DIP28		IC02	107
TDA4780	Video control with gamma correction	DIP28		IC02	103
TDA4800	Vertical deflection circuit for monitors	DBS13		IC02	107
TDA4820	Video sync separation circuit		SO8	IC02, 22	107
TDA4850	Hor./vert. defl. contr. for monitors	DIP20		IC02	107
TDA4851	Hor./vert. defl. contr. for monitors	DIP20		IC02	107
TDA4852	Hor./vert. defl. contr. for monitors	DIP20		IC02	107
TDA4855	Autosync deflection controller	SDIP32		sales	107
TDA4858	Economy autosync deflection controller	SDIP32		sales	107
TDA4860	Vert. defl. power amplifier for monitors	SIL9MPF		IC02	107
TDA4861	Vert. defl. power amplifier for monitors	SIL9		IC02	107
TDA4866	Full bridge vertical deflection booster	SIL9P		DS-IC02	107
TDA4881	Monitor video controller	DIP20		IC02	107
TDA4882	Advanced monitor video controller, OSD	DIP20		IC02	107
TDA4884	Three gain control video pre-amp., OSD	DIP20		IC02	107
TDA5030A	TV VHF mixer/oscillator/UHF pre-amp.	DIP18	SO20	IC02	100
TDA5140A	Brushless DC motor drive circuit	DIP18	SO20	IC11	81
TDA5141	Brushless DC motor drive circuit	DIP18	SO20, SO28	DS-IC02	81
TDA5142	Brushless DC motor drive circuit		SO24	IC11	81
TDA5143	Brushless DC motor drive circuit		SO20	IC11	81
TDA5144	Brushless DC motor drive circuit		SO20, SO28	IC11	81
TDA5145	Brushless DC motor control circuit	DIP28	SO28	IC11	81
TDA5330	VHF/UHF/hyperband mixer/oscillator		SO28	IC02	100
TDA5331	VHF/UHF/hyperband mixer/oscillator		SO28	sales	100
TDA5332	Double mixer/osc. for TV/VCR tuners		SO20	IC02	100

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
TDA5333	Double mixer/osc. for TV/VCR tuners		SO20	sales	100
TDA5630	3-band mixer oscillator		SO20, SSOP20	IC02	100
TDA5630A	9 V VHF/UHF/hyperband mixer/oscillator		SO20, SSOP20	sales	100
TDA5630B	Low-power VHF/UHF/hyperband mixer/osc.		SO16	IC02	100
TDA5630C	Low-power VHF/UHF/hyperband mixer/osc.		SO20M	IC02	100
TDA5631	3-band mixer oscillator		SO20, SSOP20	IC02	100
TDA5632	9 V VHF/UHF mixer/oscillator		SO20, SSOP20M	IC02	100
TDA5633	9 V, VHF/UHF mixer oscillator		SO20, SSOP20M	IC02	100
TDA5634	UHF mixer/oscillator		SO16	IC02	100
TDA5636	9V, VHF/UHF/hyperband mixer/oscillator		SO24, SSOP24M	IC02	100
TDA5636B	Low-power VHF/UHF/hyperband mixer/osc.		SO24, SSOP24	DS-IC02	100
TDA5637	9 V, VHF/UHF/hyperband mixer/oscillator		SO24, SSOP24M	IC02	100
TDA5637B	Low-power VHF/UHF/hyperband mixer/osc.		SO24, SSOP24	DS-IC02	100
TDA5731	5 V, VHF/UHF/hyperband mixer/oscillator		SSOP20	IC02	100
TDA5732	5 V, VHF/UHF F.E. mixer/oscillator		SSOP20	IC02	100
TDA5736	5 V, VHF/UHF/hyperband mixer/oscillator		SSOP24M	IC02	100
TDA5737	5 V, VHF/UHF/hyperband mixer/oscillator		SSOP24M	IC02	100
TDA6101BQ	8 MHz video output amplifier	DBS9MPF		IC02	104
TDA6101Q	8 MHz video output amplifier	DBS9MP		IC02	104
TDA6103Q	Triple video output amplifier	DBS9MP		IC02	104
TDA6106Q	Video output amplifier	SIL9MP		sales	104
TDA6111Q	16 MHz video output amplifier	DBS9MP		IC02	104
TDA6120Q	30 MHz video output amplifier	DBS9MP		sales	104
TDA6402	5 V, VHF/UHF mixer/oscillator for PLL		SSOP28	sales	100
TDA6403	5 V, VHF/UHF mixer/oscillator for PLL		SSOP28	sales	100
TDA7000	FM radio circuit	DIP18		IC01	94
TDA7010	FM radio circuit		SO16	IC01	94
TDA7021	FM radio circuit for MTS		SO16	IC01	94
TDA7040	Low-voltage PLL stereo decoder		SO8	IC01	95
TDA7050	150 mW BTL, 2x75 mW power amplifier	DIP8	SO8	IC01	96
TDA7052	1 W BTL mono audio power amplifier	DIP8		IC01	96
TDA7052A	1 W BTL mono audio power amplifier	DIP8		IC01	96
TDA7052AT	0.5 W BTL mono audio power amplifier		SO8	IC01	96
TDA7052B	1 W mono BTL audio amplifier	DIP8		IC01	96
TDA7052BT	0.5 W mono BTL audio amplifier		SO8	IC01	96
TDA7053	2x1 W stereo power amplifier	DIP16		IC01	96
TDA7053A	2x1 W Stereo BTL audio output amp.	DIP16		DS-IC01	96
TDA7053AT	2X0.5 W BTL stereo audio power amp.		SO16L	DS-IC01	96
TDA7056	3 W BTL mono audio power amplifier	SIL9MP		IC01	97
TDA7056A	3 W BTL mono audio power amplifier	SIL9P		IC01	97
TDA7056B	3 W mono BTL audio amplifier	SIL9MP		IC01	97
TDA7057AQ	2x3 W stereo BTL audio output amp.	SBDS13		IC01	97
TDA7057Q	2x3 W BTL audio power amplifier	SBDS13		IC01	97
TDA7072A	Single BTL power driver	DIP8	SO8	IC01	97
TDA7073	Dual power driver	DIP16		sales	97
TDA7073A	Dual BTL power driver	DIP16	SO16L	IC01	97
TDA7088	FM receiver circuit for battery supply		SO16	IC01	94
TDA8000	Smart card interface; ISO 7816	DIP28	SO28	DS-IC18	92
TDA8001	Smart card interface; ISO 7816	DIP28	SO28	DS-IC18	92
TDA8002	Universal IC card interface; ISO 7816		SO28, TQFP32	DS-IC18	92
TDA8005	Smart card coupler and microcontroller		TQFP64, QFP44	DS-IC17	92
TDA8006	Multiprotocol IC card coupler		LQFP64	DS-IC18	92
TDA8010	Satellite mixer/oscillator		SSOP20	sales	106
TDA8010A	Satellite mixer/oscillator		SSOP20	sales	106
TDA8011	IF satellite amplifier		SO8	sales	106
TDA8012	Low-power FM-demodulator		SSOP20	IC02	106

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
TDA8013	Low-power FM-demodulator		SSOP20	sales	106
TDA8040	QPSK demodulator		SO16	IC02	106
TDA8041	QPSK control		QFP64	IC02	106
TDA8045	QAM-64 demodulator		QFP64	sales	106
TDA8046	256/64 QAM demodulator; DVB compliant		QFP64	sales	106
TDA8302	CTV small-signal combination circuit	DIP32		IC02	105
TDA8303	Small-signal combination IC for b/w TV	DIP28		IC02	105
TDA8303A	TV small-signal combination	DIP28		IC02	105
TDA8304	CTV small-signal combination circuit	DIP32		IC02	105
TDA8305A	CTV small-signal combination circuit	DIP28		sales	105
TDA8310	Multistandard signal processing for PIP	SDIP52		IC02	104
TDA8310A	Multistandard signal processing for PIP	SDIP52		sales	104
TDA8315	Integrated NTSC dec. and sync processor		SO24	IC02	104
TDA8340	TV IF amplifier and demodulator	DIP16		IC02	100
TDA8341	TV IF amplifier and demodulator	DIP16		IC02	101
TDA8349A	Multist. TV IF ampl. and demodulator	DIP20		IC02	101
TDA8350Q	DC-coupled vertical deflection circuit	DBS13P		IC02	105
TDA8351	DC-coupled vert. deflection output	SIL9P		IC02	105
TDA8351A	DC-coupled vert. deflection output	DBS13P		IC02	105
TDA8356	DC-coupled vert. deflection output	SIL9P		IC02	105
TDA8360	One-chip TV; PAL	SDIP52		IC02	105
TDA8360E	One-chip TV; PAL; softstart	SDIP52		sales	105
TDA8361	One-chip TV; PAL/NTSC	SDIP52		IC02	105
TDA8361A	One-chip TV; PAL/NTSC; softstart	SDIP52		sales	105
TDA8361E	One-chip TV; PAL/NTSC; softstart	SDIP52		sales	105
TDA8362	One-chip TV; multistandard	SDIP52		IC02	105
TDA8362A	One-chip TV; multistandard; softstart	SDIP52		sales	105
TDA8362E	One-chip TV; multistandard; softstart	SDIP52		sales	105
TDA8366	One-chip TV video processor multistand.	SDIP52	QFP64	IC02	105
TDA8368A	One-chip TV; NTSC	SDIP52		sales	105
TDA8369	One-chip TV; NTSC; auto volume limiter	SDIP52		sales	105
TDA8373	Bus-controlled one-chip TV; NTSC	SDIP56		sales	105
TDA8374	Bus-controlled one-chip TV; multistand.	SDIP56		sales	105
TDA8374A	Bus-controlled one-chip TV; PAL/NTSC	SDIP56		sales	105
TDA8375	Bus-controlled one-chip TV; multistand.	SDIP56		sales	105
TDA8375A	Bus-controlled one-chip TV; multistand.	SDIP56		sales	105
TDA8376	Bus-controlled one-chip video processor	SDIP52		sales	105
TDA8376A	Bus-controlled one-chip video processor	SDIP52		sales	105
TDA8377	Bus-controlled one-chip TV; NTSC	SDIP56		sales	105
TDA8377A	Bus-controlled one-chip TV; NTSC	SDIP56		sales	105
TDA8380A	Control circuit for power supplies	DIP16		IC02	82, 105
TDA8385	Self-oscillating power supply controller	DIP16		DS-IC02	82, 105
TDA8395	SECAM add-on to the one-chip TV ICs	DIP16		IC02	105
TDA8415	TV/VTR stereo/dual sound processor	DIP20		IC02	101
TDA8416	TV/VTR stereo/dual sound processor	DIP20		IC02	101
TDA8417	TV/VTR stereo/dual sound processor	DIP20		IC02	101
TDA8421	Hi-fi stereo audio processor	DIP28		IC02	102
TDA8424	Hi-fi stereo audio processor	DIP20		IC02	102
TDA8425	Hi-fi stereo audio processor	DIP20		IC02	102
TDA8426	Hi-fi stereo audio processor	DIP20		IC02	102
TDA8433	TV deflection processor	DIP24		IC02	105
TDA8440	CTV receiver switch	DIP18		IC02	103
TDA8442	I2C-bus interface for colour decoders	DIP16		IC02	107
TDA8443A	I2C-bus controlled YUV/RGB switch	DIP24		IC02	103
TDA8443B	I2C-bus controlled YUV/RGB switch	DIP24		IC02	103
TDA8444	Octuple 6-bit DAC with I2C-bus	DIP16		IC02, 22	107

INTEGRATED CIRCUITS

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
TDA8444A	Octuple 6-bit DAC with I2C-bus		SO20	IC22	107
TDA8446	Fast RGB/YC switch for digital decoding	DIP20	SO28	IC02, 22	103
TDA8480	RGB gamma-correction processor		SO20	IC02	103
TDA8490	SECAM decoder	DIP18		IC02	103
TDA8501	PAL/NTSC encoder	SDIP24	SO24	IC02	106
TDA8505	SECAM encoder	SDIP32		IC02	106
TDA8540	4x4 video switch matrix	DIP20	SO20	IC02, 22	103
TDA8541	Mono 1 W / 8 Ω amplifier		SO8	sales	97
TDA8542	Stereo 1 W / 8 Ω amplifier	DIP16		sales	97
TDA8559	Stereo headphone and line driver		SO16	sales	97
TDA8560Q	2x40 W/2 Ω stereo BTL car radio amp.	DBS13		IC01	97
TDA8561Q	2x24 W BTL or 4x12 W car radio amp.	DBS17		IC01	97
TDA8562Q	4x12 W car radio power amlifier	DBS17		IC01	97
TDA8563Q	2x40 W/2 Ω stereo BTL car radio amp.	DBS13		IC01	97
TDA8564Q	2x24 (4x7) W car radio power amp.	DBS17P		DS-IC01	97
TDA8565Q	4x12 W car radio power amplifier	DBS17P		DS-IC01	97
TDA8574	Hi-fi 5 V class-H line driver	DIP16	SO16L	sales	97
TDA8575	Hi-fi ground isolator		SO16	sales	97
TDA8577	Dual common-mode rejection line receiver	SIL9		IC01	97
TDA8578	Dual common-mode rejection line receiver	DIP16	SO16	IC01	97
TDA8579	Dual common-mode rejection line receiver	DIP8	SO8	IC01	97
TDA8580Q	Multi-purpose power amplifier	DBS17P		sales	97
TDA8601	RGB/YUV and fast blanking switch	DIP16	SO16	IC02	103
TDA8702	8-bit high-perf., high-speed video DAC	DIP16	SO16L	IC02, 22	103
TDA8703	8-bit high-performance, high-speed ADC	DIP24	SO24	IC02	103
TDA8705	6-bit high-speed dual A/D converter		SO28	IC02, 22	103
TDA8705A	6-bit high-speed dual A/D converter		SO28	IC02	103
TDA8706	6-bit ADC with multiplexer and clamp	DIP20	SO20	IC02, 22	103
TDA8707	Triple RGB 6-bit video interface		QFP44	IC02, 22	103
TDA8708A	32 MHz video analog input interface	DIP28	SO28	IC02, 22	103
TDA8708B	Video analog input interface	DIP28	SO28	IC02, 22	103
TDA8709A	32 MHz video analog input interface	DIP28	SO28	IC02, 22	103
TDA8712	8-bit high-perf., high-speed video DAC	DIP16	SO16L	sales	103
TDA8714	8-bit high-speed A/D converter		SO24, SSOP24M	IC02, 22	103
TDA8716	8-bit high-speed A/D converter	DIP24	SO32	IC02	103
TDA8718	8-bit high-speed A/D converter		PLCC28	IC02	103
TDA8722	I2C-bus progr. modulator for video/FM		SO20, SSOP20	IC02	107
TDA8725	Antenna signal processor		SO16	IC02	106
TDA8730	PLL FM demodulator for DBS signals	DIP16		IC02	106
TDA8732	NICAM-728 demodulator (NIDEM)	DIP20		IC02	101
TDA8735	PLL frequency synthesizer	DIP16	SO16L	IC02	106
TDA8740	Satellite sound crt., noise reduction	SDIP42	QFP44	IC02	106
TDA8741	Satellite sound crt., noise reduction	SDIP42	QFP44	IC02	106
TDA8742	Satellite sound crt., noise reduction	SDIP42	QFP44	IC02	106
TDA8745	Satellite sound crt. with I2C-bus	SDIP42	QFP44	IC02	106
TDA8753A	YUV 8-bit A/D interface	SDIP42		IC02	103
TDA8755	YUV 8-bit video low-power interface		SO32	IC02	103
TDA8758	YC 8-bit low-power video interface		TQFP48	IC02, 22	103
TDA8760	10-bit high-speed A/D converter		PLCC44	IC02, 22	103
TDA8761	9-bit A/D converter for digital video		SSOP28	IC02	103
TDA8762	10-bit high-speed low-power ADC		SSOP28	IC02	103
TDA8762A	10-bit high-speed low-power ADC		SSOP28	DS02, 22	103
TDA8766	10-bit high-speed 3 V A/D converter		LQFP32	IC02	103
TDA8771	35 MHz triple 8-bit video DAC		QFP44	IC02, 22	103
TDA8772	35/85 MHz triple 8-bit video DAC		QFP44	IC02, 22	103
TDA8772A	Triple 8-bit video D/A converter		QFP44	IC02, 22	103

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package through-hole	SMD	hand book	page 3–
TDA8776	10-bit, 500 MSPS D/A converter		PLCC28	IC02	103
TDA8776A	10-bit, 1000 Msps D/A converter		PLCC28	DS-IC02	103
TDA8780	True logarithmic amplifier		SSOP20M	IC17	87
TDA8785	8-bit AD with controllable gain		QFP44	sales	104
TDA8790	8-bit, 40 Msps A/D converter		SSOP20	DS-IC02	104
TDA8794	Dual 8-bit, 40 Msps A/D converter		LQFP48	DS-IC02	104
TDA8822	Universal PAL/NTSC program. modulator		SO24, SSOP24	sales	107
TDA9141	Alignment-free multistandard decoder	SDIP32		IC02	103
TDA9143	Alignment-free multistandard decoder	SDIP32		sales	103
TDA9144	Alignment-free multistandard decoder	SDIP32		IC02	103
TDA9150B	Programmable deflection controller	DIP20		IC02	105
TDA9151B	Programmable deflection controller	DIP20		IC02	105
TDA9160A	Multistandard decoder, sync. processor	SDIP32		sales	103
TDA9161A	Bus-controlled decoder/sync processor	SDIP32		sales	103
TDA9162	Multistandard decoder, sync. processor	SDIP32		sales	103
TDA9170	YUV picture improvement processor	SDIP32	SO32	IC02	103
TDA9171	YUV picture improvement processor	DIP20		DS-IC02	103
TDA9176	Luminance transient improvement IC	DIP16		DS-IC02	103
TDA9610	Audio FM processor for VHS hi-fi audio		QFP64	IC02	107
TDA9612	VHS stereo audio processor		QFP64	sales	107
TDA9614	VHS stereo audio processor		QFP64	IC02	107
TDA9715A	VHS Y/C one-chip processor		QFP80REC	IC02	107
TDA9725	VHS video (Y/C) processor	SDIP32		sales	107
TDA9800	TV IF amplifier and PLL-demodulator	DIP20	SO20	IC02	101
TDA9802	Multist. IF amp and PLL-demodulator	DIP20	SO20	IC02	101
TDA9803	Multist. IF amp and PLL-demodulator	DIP20	SO20	IC02	101
TDA9804	VIF-PLL demodulator	DIP20		IC02	101
TDA9806	Multistandard VIF-PLL and FM-PLL demod.	SDIP32		DS-IC02	101
TDA9808	Single standard QSS-VIF and FM demod.	DIP20	SO20	IC02	101
TDA9811	Multistandard VIF-PLL	SDIP32		DS-IC02	101
TDA9812	Multist. VIF-PLL with AM/FM PLL demod.		SO28	IC02	101
TDA9813	Single-standard VIF-PLL		SO28	DS-IC02	101
TDA9814	Multistandard VIF/SIF PLL		SO28	DS-IC02	101
TDA9815	Multistandard/MAC VIF-PLL	SDIP32		DS-IC02	101
TDA9820	Multistandard TV FM sound demodulator	DIP16		IC02	101
TDA9821	Dual channel TV FM-PLL sound demod.	DIP16		IC02	101
TDA9830	TV AM-sound IF circuit	DIP16	SO16	IC02	101
TDA9840	TV stereo/dual sound processor	DIP20	SO20	IC02	101
TDA9845	TV/VTR stereo/dual sound processor	DIP20	SO20	IC02	101
TDA9847	TV and VTR stereo/dual sound processor	SDIP24	SO24	DS-IC02	101
TDA9850	TV and VTR stereo/dual sound processor	SDIP32	SO32	DS02, 22	101
TDA9855	I2C-bus controlled BTSC stereo/SAP dec.	SDIP52	PLCC68	IC02, 22	102
TDA9860	Universal hi-fi audio processor	SDIP32		IC02	102
TDB1080	IF limiter, FM detector and audio ampl.	DIP16	SO16	sales	94
TDD1742	Low-power frequency synthesizer (LOPSY)		SO28	IC03, 17	87
TDF8704	8-bit high-speed A/D converter		SO24	IC02	104
TDF8712	8-bit D/A converters	DIP16	SO16L	IC02	104
TEA0665	Dolby B & C proc. with pre-amp./switch	DIP28	SO28	IC01	95
TEA0675	Dual Dolby B noise reduction circuit	SDIP24	SO24	IC01	95
TEA0676	Dual head pre-amplifier		SO16L	sales	95
TEA0677	Dual pre-amplifier and equalizer		SO24	IC01	95
TEA0678	Dual Dolby B noise reduction circuit	SDIP32	SO32	IC01	95
TEA1017	13-bit ser.-par. conv., display driver	DIP18		sales	80
TEA1039	Switched-mode power supply controller	SIL9		IC02, 11	82
TEA1041	Battery low-level indicator		SO8	IC11	82
TEA1060	Speech transmission circuit	DIP18		IC03	90

INTEGRATED CIRCUITS

Alphanumeric index

type number	description	package		hand book	page 3–
		through-hole	SMD		
TEA1061	Speech transmission circuit	DIP18		IC03	90
TEA1062	Speech transmission circuit	DIP16	SO16	IC03	90
TEA1062A	Speech transmission circuit	DIP16	SO16	IC03	90
TEA1063	Interface for long lines	DIP20	SO20	sales	90
TEA1064A	Speech transmission circuit	DIP20	SO20	IC03	90
TEA1064B	Speech transmission circuit	DIP20	SO20	IC03	90
TEA1065	Speech transmission circuit	DIP24	SO24	IC03	90
TEA1066	Speech transmission circuit		SO20	IC03	90
TEA1067	Speech transmission circuit	DIP18	SO20	IC03	90
TEA1067A	Speech transmission circuit	DIP18	SO20	sales	90
TEA1068	Speech transmission circuit	DIP18	SO20	IC03	90
TEA1081	Supply circuit for telephone sets	DIP8	SO8	IC03	90
TEA1083	Call progress monitor	DIP8		IC03	90
TEA1083A	Call progress monitor	DIP16	SO16L	IC03	90
TEA1085	Listening-in circuit	DIP24	SO24	IC03	90
TEA1085A	Listening-in circuit	DIP24	SO24	IC03	90
TEA1088	SMPS battery charger control circuit		SO16L	IC11	82
TEA1093	Hands-free telephone set circuit	DIP28	SO28	DS-IC03	90
TEA1094	Hands-free telephone set circuit	DIP28	SO28	IC03	90
TEA1095	Voice switched speakerphone IC	DIP24	SO24	sales	90
TEA1096	Line interface and listening-in circuit	DIP28	SO28	IC03	90
TEA1096A	Line interface and listening-in circuit	DIP28	SO28	IC03	90
TEA1100	Control circuit for battery chargers	DIP16	SO16L	IC11	82
TEA1101	Control circuit for battery chargers	DIP16	SO16L	IC11	82
TEA1102	Monitor and control IC for NIMH/NiCd	DIP18	SO20	sales	82
TEA1112	Line interface for parallel operation	DIP16	SO16	sales	90
TEA1112A	Line interface for parallel operation	DIP16	SO16	sales	90
TEA1113	Line interface for parallel operation	DIP16	SO16	sales	90
TEA1401	Electronic power plug control IC		SO20	sales	82
TEA5500	Coded locking crt for security systems	DIP16	SO16L	IC11	93
TEA5501	Coded locking crt for security systems	DIP14		IC11	93
TEA5551	Single-chip AM radio		SO16	IC01	94
TEA5570	RF/IF circuit for AM/FM radio	DIP16		IC01	94
TEA5581	PLL stereo decoder	DIP16	SO16L	IC01	95
TEA5582	BTSC PLL stereo decoder	DIP20		IC02	102
TEA5591	AM/FM radio receiver circuit	DIP20		IC01	94
TEA5591A	AM/FM radio receiver circuit	SDIP24		IC01	94
TEA5594	AM/FM radio receiver circuit	SDIP32		IC01	94
TEA5710	AM/FM radio receiver circuit	SDIP24	SO24	IC01	94
TEA5711	AM/FM stereo radio circuit	SDIP32	SO32	IC01	94
TEA5712	AM/FM stereo DTS radio circuit	SDIP32	SO32	IC01	94
TEA5757	Self tuned AM/FM radio receiver		QFP44	IC01	94
TEA5759	Self tuned AM/FM radio receiver		QFP44	sales	94
TEA5762	Self tuned AM/FM radio receiver		QFP44	DS-IC01	94
TEA6100	FM/IF system for microcomputer tuning	DIP20		IC01	94
TEA6101	Antenna diversity circuit	DIP18	SO20	IC01	95
TEA6200	AM upconversion radio receiver	DIP20		IC01	94
TEA6300	Car radio pre-amp and source selector	DIP28	SO28	IC01	95
TEA6320	Sound fader control circuit	SDIP32	SO32	IC01	95
TEA6321	Sound fader control circuit	SDIP32	SO32	IC01	95
TEA6322	Sound fader control circuit		VSO40	sales	95
TEA6323	Sound fader control circuit		VSO40	sales	95
TEA6330	Sound fader control circuit		SO20	IC01	95
TEA6360	Five-band equalizer	SDIP32	SO32	IC01	95
TEA6810	Front-end and PLL synth. for car radios		VSO40	IC01	94
TEA6811	AM/FM RF and PLL synthesizer circuit		VSO40	IC01	94

Alphanumeric index

type		package		hand	page
number	description	through-hole	SMD	book	3–
TEA6821	ICE car radio		VSO56	IC01	94
TEA6822	AM/FM IF, stereo decoder and NC circuit		VSO56	sales	94
TEA6850	Prec. channel selectivity PACS circuit		QFP44, die	IC01	94
TSA5055	2.5 GHz bidirectional freq. synthesizer		SO16	IC02	106
TSA5511	1.3 GHz bidirectional synthesizer	DIP18		IC02	100
TSA5511AT	1.3 GHz bidirectional synthesizer		SO20	IC02	100
TSA5511T	1.3 GHz bidirectional synthesizer		SO16	IC02	100
TSA5512	1.3 GHz bidirectional synthesizer	DIP18	SSOP20M	IC02	100
TSA5512AT	1.3 GHz bidirectional synthesizer		SO20	IC02	100
TSA5512T	1.3 GHz bidirectional synthesizer		SO16	IC02	100
TSA5514	1.3 GHz bidirectional synthesizer	DIP28	SO16	IC02	100
TSA5514AT	1.3 GHz bidirectional synthesizer		SO20	IC02	100
TSA5515	1.3 GHz bidirectional synthesizer		SO14	IC02	100
TSA5518	1.3 GHz bidirectional synthesizer		SSOP20	sales	100
TSA5520	1.3 GHz PLL frequency synthesizer		SO16, SSOP16M	IC02	100
TSA5521	1.3 GHz PLL frequency synthesizer		SO16, SSOP16M	IC02	100
TSA5522	1.4 GHz I2C-bus controlled synthesizer		SSOP20, SO16	IC02	100
TSA5526	1.3 GHz PLL frequency synthesizer		SO16, SSOP16M	IC02	100
TSA5526A	1.3 GHz univ. bus-controlled TV synth.		SO16, SSOP16	IC02	100
TSA5527	1.3 GHz PLL frequency synthesizer		SSOP16M	IC02	100
TSA5527A	1.3 GHz univ. bus-controlled TV synth.		SO16, SSOP16	IC02	100
TSA6057	Radio tuning PLL frequency synthesizer	DIP16	SO16L	IC01	94
TSA6060	Radio tuning PLL frequency synthesizer	DIP16	SO16L	IC01	94
UAA2050	Low-power digital UHF paging receiver		SO28	IC03	89
UAA2067	Image reject 1800 MHz transc. for DECT		LQFP32	IC17	88
UAA2072	Image reject front-end for GSM		SSOP20M	IC03, 17	88
UAA2073	Image rejecting front-end for GSM		SSOP20M	DS-IC17	88
UAA2077A	Image reject front-end for DECT		SSOP20M	DS-IC17	88
UAA2077B	Image reject front-end for DCS/PCN		SSOP20M	DS-IC17	88
UAA2080	Advanced pager receiver		SO28, QFP32, FFC	IC03	89
UAA2082	Advanced pager receiver		TQFP32	IC03, 17	89
UAA3201	UHF/VHF remote control receiver		SO16	sales	109
UBA1702	High-volt. DMOS interruptor and ringer	DIP28	SO28	DS-IC03	90
UBA1702A	High-volt. DMOS interruptor and ringer	DIP28	SO28	DS-IC03	90
UC3842	Current-mode PWM controller	DIP8	SO14	IC11	82
UMA1000L	Data processor for cellular radio		SO28	IC03, 17	88
UMA1002	DPROC		QFP32	sales	89
UMA1005	Dual low-power frequency synthesizer		SSOP20	IC03, 17	87
UMA1014	Low-power synthesizer for mobile radios		SO16	IC03, 17	87
UMA1015	Dual 1.1 GHz frequency synthesizer		SSOP20M	DS-IC03	87
UMA1017	Low-voltage 1.2 GHz freq. synthesizer		SSOP20M	IC17	87
UMA1018	Low-voltage dual 1.2 GHz freq. synth.		SSOP20M	IC17	87
UMA1019	Low-voltage freq. synth. for radio tel.		SSOP20M	IC17	87
UMA1019A	1.7 GHz freq. synthesizer for GSM/DCS		SSOP20M	IC17	87
UMA1020	Low-voltage dual 2.4 GHz freq. synth.		SSOP20M	IC17	87
UMA1020A	1.7 GHz dual freq. synth. for GSM/DCS		SSOP20M	IC17	87
UMA1021	Low-voltage freq. synth. for radio tel.		SSOP20M	DS-IC17	87
UMF1000	Data processor for cellular radio		SO28	IC03	88
µA723	Precision voltage regulator	CERDIP14		IC11	82
µA723C	Precision voltage regulator	DIL14	SO14	IC11	82
µA733	Differential video amplifier	DIL14		IC11	77
µA733C	Differential video amplifier	DIL14		IC11	77
µA741	General purpose operational amplifier	DIL8		IC11	77
µA741C	General purpose operational amplifier	DIL8	SO8	IC11	77
µA747C	Dual operational amplifier	DIL14		IC11	77

Alphanumeric index

type number	description	hand book	page 4–
DISCRETE SEMICONDUCTORS			
1N4001G	Mains rectifier	SC01	60
1N4001ID	Mains rectifier	SC01	60
1N4002G	Mains rectifier	SC01	60
1N4002ID	Mains rectifier	SC01	60
1N4003G	Mains rectifier	SC01	60
1N4003ID	Mains rectifier	SC01	60
1N4004G	Mains rectifier	SC01	60
1N4004ID	Mains rectifier	SC01	60
1N4005G	Mains rectifier	SC01	60
1N4005ID	Mains rectifier	SC01	60
1N4006G	Mains rectifier	SC01	60
1N4006ID	Mains rectifier	SC01	60
1N4007G	Mains rectifier	SC01	60
1N4007ID	Mains rectifier	SC01	60
1N4148	High-speed diode	SC01	50, 51
1N4150	Ultra-high-speed diode	SC01	50, 51
1N4151	Ultra-high-speed diode	SC01	51
1N4153	Ultra-high-speed diode	SC01	51
1N4446	High-speed diode	SC01	51
1N4448	High-speed diode	SC01	51
1N4531	High-speed diode	SC01	50, 51
1N4532	High-speed diode	SC01	51
1N4728A	Voltage regulator diode	SC01	57
1N4749A	Voltage regulator diode	SC01	57
1N5059	Controlled avalanche rectifier	SC01	62
1N5060	Controlled avalanche rectifier	SC01	62
1N5061	Controlled avalanche rectifier	SC01	62
1N5062	Controlled avalanche rectifier	SC01	62
1N5225B	Voltage regulator diode	SC01	57
1N5267B	Voltage regulator diode	SC01	57
1N5817	Schottky barrier diode	SC01	69
1N5818	Schottky barrier diode	SC01	69
1N5819	Schottky barrier diode	SC01	69
1N821	Voltage reference diode	SC01	59
1N821A	Voltage reference diode	SC01	59
1N823	Voltage reference diode	SC01	59
1N823A	Voltage reference diode	SC01	59
1N825	Voltage reference diode	SC01	59
1N825A	Voltage reference diode	SC01	59
1N827	Voltage reference diode	SC01	59
1N827A	Voltage reference diode	SC01	59
1N829	Voltage reference diode	SC01	59
1N829A	Voltage reference diode	SC01	59
1N914	High-speed diode	SC01	50, 51
1N916	High-speed diode	SC01	51
1PS181	High-speed double diode	SC01	50, 52
1PS184	High-speed double diode	SC01	50, 52
1PS193	High-speed diode	SC01	50, 52
1PS226	High-speed double diode	SC01	50, 52
1PS300	High-speed double diode	SC01	50, 52
1PS301	High-speed double diode	SC01	50, 52
1PS302	High-speed double diode	SC01	50, 52
2N1711	Silicon planar transistor	SC04	5, 9, 23
2N1893	Silicon transistor	SC04	5, 9, 23

Alphanumeric index

type number	description	hand book	page 4–
2N2102/PH	Silicon planar transistor	sales	9
2N2219	Silicon planar epitaxial transistor	SC04	9, 21, 23
2N2219A	Silicon planar epitaxial transistor	SC04	9, 21, 23
2N2222	Silicon planar epitaxial transistor	SC04	21, 23
2N2222A	Silicon planar epitaxial transistor	SC04	21, 23
2N2297	Silicon planar epitaxial transistor	SC04	21, 23
2N2329	Thyristor	sales	34
2N2369	Silicon planar epitaxial transistor	SC04	21, 23
2N2405/PH	Silicon planar transistor	sales	9
2N2483	Silicon planar transistor	SC04	5, 9
2N2484	Silicon planar transistor	SC04	5, 9
2N2894A/PH	Silicon switching transistor	sales	24
2N2905	Silicon planar epitaxial transistor	SC04	11, 21, 24
2N2905A	Silicon planar epitaxial transistor	SC04	11, 21, 24
2N2906	Silicon planar epitaxial transistor	SC04	21, 25
2N2906A	Silicon planar epitaxial transistor	SC04	21, 25
2N2907	Silicon planar epitaxial transistor	SC04	21, 25
2N2907A	Silicon planar epitaxial transistor	SC04	21, 25
2N3019	Silicon planar epitaxial transistor	SC04	21, 23
2N3553	Silicon epitaxial planar overlay transistor	sales	100
2N3700/PH	Silicon planar transistor	sales	9
2N3866	Silicon planar epitaxial overlay transistor	SC08a	100, 101, 104
2N3904	Silicon planar epitaxial transistor	SC04	21, 23
2N3906	Silicon planar epitaxial transistor	SC04	21, 25
2N3963/PH	Silicon planar transistor	sales	11
2N3964/PH	Silicon planar transistor	sales	11
2N4029/PH	Silicon planar transistor	sales	11
2N4031	Silicon planar epitaxial transistor	SC04	6, 11, 25
2N4033	Silicon planar epitaxial transistor	SC04	6, 11, 25
2N4035/PH	Silicon planar transistor	sales	11
2N4036	PNP power transistor	SC04	25
2N4037/PH	Silicon planar transistor	sales	11
2N4091	N-channel FET	SC07	38, 39
2N4092	N-channel FET	SC07	38, 39
2N4093	N-channel FET	SC07	38, 39
2N4124	Silicon planar epitaxial transistor	SC04	9, 21, 23
2N4126	Silicon planar epitaxial transistor	SC04	12, 21, 25
2N4220	N-channel junction FET	SC07	35, 36
2N4220A	N-channel junction FET	SC07	35, 36
2N4221	N-channel junction FET	SC07	35, 36
2N4221A	N-channel junction FET	SC07	35, 36
2N4222	N-channel junction FET	SC07	35, 36
2N4222A	N-channel junction FET	SC07	35, 36
2N4391	N-channel FET	SC07	38, 39
2N4392	N-channel FET	SC07	38, 39
2N4393	N-channel FET	SC07	38, 39
2N4401	Silicon planar epitaxial transistor	SC04	9, 21, 23
2N4402	Silicon planar epitaxial transistor	SC04	21, 25
2N4403	Silicon planar epitaxial transistor	SC04	21, 25
2N4416	N-channel field-effect transistor	SC07	35, 36
2N4416A	N-channel field-effect transistor	SC07	35, 36
2N4427	Silicon planar epitaxial overlay transistor	SC08a	99, 101
2N4856	N-channel FET	SC07	38, 39
2N4857	N-channel FET	SC07	38, 39
2N4858	N-channel FET	SC07	38, 39
2N4859	N-channel FET	SC07	38, 39

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
2N4860	N-channel FET	SC07	38, 39
2N4861	N-channel FET	SC07	38, 39
2N4870/PH	Programmable unijunction transistor	sales	33
2N5064	Thyristor	SC03	82
2N5087	Silicon planar epitaxial transistor	SC04	17, 18
2N5088	Silicon planar epitaxial transistor	SC04	17, 18
2N5116	P-channel junction FET	SC07	38, 40
2N5400	Silicon PNP high-voltage transistor	SC04	25, 28, 29
2N5401	Silicon PNP high-voltage transistor	SC04	25, 28, 29
2N5415	Silicon PNP high-voltage transistor	SC04	25, 28, 29
2N5416	Silicon PNP high-voltage transistor	SC04	25, 28, 29
2N5460	P-channel junction FET	SC07	38, 40
2N5461	P-channel junction FET	SC07	38, 40
2N5462	P-channel junction FET	SC07	38, 40
2N5484	N-channel field-effect transistor	SC07	35, 36
2N5485	N-channel field-effect transistor	SC07	35, 36
2N5486	N-channel field-effect transistor	SC07	35, 36
2N5550	Silicon NPN high-voltage transistor	SC04	23, 28, 29
2N5551	Silicon NPN high-voltage transistor	SC04	23, 28, 29
2N5680	Silicon planar epitaxial transistor	sales	12
2N6027/PH	Programmable unijunction transistor	sales	33
2N6028/PH	Programmable unijunction transistor	sales	33
2N6427	NPN silicon planar darlington transistor	sales	5, 9
2N7000	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
2N7002	N-channel vertical D-MOS transistor	SC07	42, 44
2N881/PH	Thyristor	sales	34
2PA1015	Silicon small-signal transistor	SC04	6, 12
2PA1015L	Silicon snall-signal transistor	SC04	18
2PA1576	PNP general purpose transistor	SC04	6, 16
2PA733	Silicon small-signal transistor	SC04	12
2PB1219	General purpose low-frequency transistor	sales	5, 14
2PB1219A	General purpose low-frequency transistor	sales	5, 14
2PB709	PNP general purpose transistor	SC04	6, 16
2PB709A	PNP general purpose transistor	SC04	6, 16
2PB710	PNP general purpose transistor	SC04	6, 16
2PB710A	PNP general purpose transistor	SC04	6, 16
2PC1815	Silicon small-signal transistor	SC04	5, 9
2PC1815L	Silicon small-signal transistor	SC04	18
2PC4081	NPN general purpose transistor	SC04	5, 14
2PC945	Silicon small-signal transistor	SC04	5, 9
2PD601	NPN general purpose transistor	SC04	5, 14
2PD601A	NPN general purpose transistor	SC04	5, 14
2PD602	NPN general purpose transistor	SC04	5, 14
2PD602A	NPN general purpose transistor	SC04	5, 14
BA220	High-speed diode	SC01	51, 56
BA221	High-speed diode	SC01	51
BA314	Low-voltage stabistor	SC01	56
BA315	Low-voltage stabistor	SC01	56
BA316	High-speed diode	SC01	51
BA317	High-speed diode	SC01	50, 51
BA318	High-speed diode	SC01	50, 51
BA423A	AM band-switching diode	SC01	49, 86
BA423AL	AM band-switching diode	SC01	49, 86
BA481	UHF mixer diode	SC01	49, 54, 55, 86
BA482	Band-switching diode	SC01	49, 86
BA483	Band-switching diode	SC01	49, 86

Alphanumeric index

type number	description	hand book	page 4–
BA484	Band switching diode	SC01	49, 86
BA582	Band-switching diode	SC01	49, 86
BA682	Band-switching diode	SC01	49, 86
BA683	Band-switching diode	SC01	49, 86
BA792	Band-switching diode	SC01	49, 86
BAL74	High-speed diode	SC01	51
BAL74W	High-speed diode	SC01	51
BAL99	High-speed diode	SC01	51
BAL99W	High-speed diode	SC01	51
BAS116	Low-leakage diode	SC01	53
BAS15	High-speed diode	SC01	50, 51
BAS16	High-speed diode	SC01	50, 51
BAS16W	High-speed diode	SC01	50, 51
BAS17	Low-voltage stabistor	SC01	56
BAS19	High-speed diode	SC01	50, 51
BAS20	High-speed diode	SC01	50, 51
BAS21	High-speed diode	SC01	50, 51
BAS216	High-speed switching diode	SC01	51
BAS28	High-speed double diode	SC01	50, 51
BAS29	High-speed (double) diode	SC01	50, 51
BAS31	High-speed (double) diode	SC01	50, 51
BAS32L	High-speed diode	SC01	51
BAS35	High-speed (double) diode	SC01	50, 51
BAS40	Schottky barrier (double) diode	SC01	54, 55
BAS45A	Low-leakage diode	SC01	53
BAS45AL	Low-leakage diode	SC01	53
BAS55	High-speed diode	SC01	51
BAS56	High-speed double diode	SC01	50, 51
BAS616	High-speed diode	SC01	50, 52
BAS678	High-speed diode	SC01	52
BAS70	Schottky barrier (double) diode	SC01	54, 55
BAS70W	Schottky barrier (double) diode	SC01	54, 55
BAS70-01	Schottky barrier (double) diode	SC01	54, 55
BAS70-07	Schottky barrier (double) diode	SC01	54, 55
BAS81	Schottky barrier diode	SC01	54, 55
BAS82	Schottky barrier diode	SC01	54, 55
BAS83	Schottky barrier diode	SC01	54, 55
BAS85	Schottky barrier diode	SC01	54, 55
BAS86	Schottky barrier diode	SC01	54, 55
BAT17	Schottky barrier diode	SC01	54, 55
BAT18	Band-switching diode	SC01	49, 86
BAT254	Schottky barrier diode	SC01	54, 55
BAT54	Schottky barrier (double) diode	SC01	54, 55
BAT54W	Schottky barrier (double) diode	SC01	54, 55
BAT56	Schottky barrier diode	SC01	54, 55
BAT74	Schottky barrier diode	SC01	54, 55
BAT81	Schottky barrier diode	SC01	54, 55
BAT82	Schottky barrier diode	SC01	54, 55
BAT83	Schottky barrier diode	SC01	54, 55
BAT85	Schottky barrier diode	SC01	54, 55
BAT86	Schottky barrier diode	SC01	54, 55
BAT93	Schottky barrier diode	SC01	54, 55
BAV10	High-speed diode	SC01	50, 51
BAV100	General purpose diode	SC01	52
BAV101	General purpose diode	SC01	50, 52
BAV102	General purpose diode	SC01	50, 52

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
BAV103	General purpose diode	SC01	50, 52
BAV105	High-speed diode	SC01	52
BAV170	Low-leakage double diode	SC01	53
BAV18	General purpose diode	SC01	51
BAV19	General purpose diode	SC01	50, 51
BAV199	Low-leakage double diode	SC01	53
BAV20	General purpose diode	SC01	50, 51
BAV21	General purpose diode	SC01	50, 51
BAV23	Double diode	SC01	50, 52
BAV23S	Double diode	SC01	50, 52
BAV45	Picoampere diode	SC01	53
BAV70	Double diode	SC01	50, 52
BAV70W	High-speed double diode	SC01	50, 52
BAV74	High-speed double diode	SC01	50, 52
BAV99	High-speed double diode	SC01	50, 52
BAV99W	High-speed double diod	SC01	50, 52
BAW156	Low-leakage double diode	SC01	53
BAW56	High-speed double diode	SC01	50, 52
BAW56W	High-speed double diode	SC01	50, 52
BAW62	High-speed diode	SC01	50, 51
BAX12	Switching diode	SC01	50, 51
BAX14	Switching diode	SC01	50, 51, 56
BAX18	Switching diode	SC01	50, 51
BAY80	Switching diode	SC01	51
BB112	Variable capacitance diode	SC01	48, 85
BB119	Variable capacitance diode	SC01	48, 85
BB130	Variable capacitance diode	SC01	48, 85
BB131	VHF variable capacitance diode	SC01	48, 85
BB132	VHF variable capacitance diode	SC01	48, 85
BB133	VHF variable capacitance diode	SC01	48, 85
BB134	UHF variable capacitance diode	SC01	48, 85
BB135	UHF variable capacitance diode	SC01	48, 85
BB148	VHF variable capacitance diode	SC01	48, 85
BB149	UHF variable capacitance diode	SC01	48, 85
BB150	VHF variable capacitance diode	SC01	48, 85
BB158	VHF variable capacitance diode	SC01	48, 85
BB159	UHF variable capacitance diode	SC01	48, 85
BB204B	Variable capacitance double diode	SC01	48, 85
BB212	AM variable capacitance double diode	SC01	48, 85
BB215	UHF variable capacitance diode	SC01	48, 85
BB405B	UHF variable capacitance diode	SC01	48, 85
BB417	Variable capacitance diode	SC01	48, 85
BB515	UHF variable capacitance diode	SC01	48, 85
BB619	VHF variable capacitance diode	SC01	48, 85
BB620	VHF variable capacitance diode	SC01	48, 85
BB804	VHF variable capacitance double diode	SC01	48, 85
BB809	Variable capacitance diode	SC01	48, 85
BB811	UHF variable capacitance diode	SC01	48, 85
BB901	Variable capacitance diode	SC01	48, 85
BB909A	Variable capacitance diode	SC01	48, 85
BB909B	Variable capacitance diode	SC01	48, 85
BB910	VHF variable capacitance diode	SC01	48, 85
BB911/A	VHF variable capacitance diode	SC01	48, 85
BBY31	Variable capacitance diode	SC01	48, 85
BBY39	Double variable capacitance diode	SC01	48, 85
BBY40	Variable capacitance diode	SC01	48, 85

Alphanumeric index

type number	description	hand book	page 4–
BBY42	VHF variable capacitance diode	SC01	48, 85
BBY62	Double variable capacitance diode	SC01	48, 85
BC107	AF silicon planar epitaxial transistor	SC04	5, 7
BC108	AF silicon planar epitaxial transistor	SC04	5, 7
BC109	AF silicon planar epitaxial transistor	SC04	17, 18
BC140	Silicon planar epitaxial transistor	SC04	5, 7
BC141	Silicon planar epitaxial transistor	SC04	5, 7
BC160	Silicon planar epitaxial transistor	SC04	6, 10
BC161	Silicon planar epitaxial transistor	SC04	6, 10
BC177	AF silicon planar epitaxial transistor	SC04	10
BC264A	N-channel silicon field-effect transistor	SC07	36
BC264B	N-channel silicon field-effect transistor	SC07	36
BC264C	N-channel silicon field-effect transistor	SC07	36
BC264D	N-channel silicon field-effect transistor	SC07	36
BC327	Silicon planar epitaxial transistor	SC04	6, 10
BC327A	Silicon planar epitaxial transistor	SC04	6, 10
BC328	Silicon planar epitaxial transistor	SC04	6, 10
BC337	Silicon planar epitaxial transistor	SC04	5, 7
BC337A	Silicon planar epitaxial transistor	SC04	7
BC338	Silicon planar epitaxial transistor	SC04	5, 7
BC368	Silicon planar epitaxial transistor	SC04	5, 7
BC369	Silicon planar epitaxial transistor	SC04	6, 10
BC516	Silicon planar Darlington transistor	SC04	6, 10
BC517	Silicon planar Darlington transistor	SC04	5, 7
BC546	Silicon planar epitaxial transistor	SC04	5, 7
BC547	Silicon planar epitaxial transistor	SC04	5, 7
BC548	Silicon planar epitaxial transistor	SC04	7
BC549	Silicon planar epitaxial transistor	SC04	17, 18
BC550	Silicon planar epitaxial transistor	SC04	17, 18
BC556	Silicon planar epitaxial transistor	SC04	6, 10
BC557	Silicon planar epitaxial transistor	SC04	6, 10
BC558	Silicon planar epitaxial transistor	SC04	6, 10
BC559	Silicon planar epitaxial transistor	SC04	6, 17, 18
BC617	NPN Darlington transistor	SC04	5, 7
BC618	NPN Darlington transistor	SC04	5, 7
BC635	Silicon planar epitaxial transistor	SC04	5, 7
BC636	Silicon planar epitaxial transistor	SC04	6, 10
BC637	Silicon planar epitaxial transistor	SC04	5, 7
BC638	Silicon planar epitaxial transistor	SC04	6, 10
BC639	Silicon planar epitaxial transistor	SC04	5, 7
BC640	Silicon planar epitaxial transistor	SC04	6, 10
BC807	Silicon planar epitaxial transistor	SC04	6, 15
BC807W	PNP general purpose transistor	SC04	6, 15
BC808	Silicon planar epitaxial transistor	SC04	6, 15
BC808W	PNP general purpose transistor	SC04	6
BC817	Silicon planar epitaxial transistor	SC04	5, 13
BC817W	NPN general purpose transistor	SC04	5, 13
BC818	Silicon planar epitaxial transistor	SC04	5, 13
BC818W	NPN general purpose transistor	SC04	5, 13
BC846	Silicon planar epitaxial transistor	SC04	5, 13
BC846W	NPN general purpose transistor	SC04	5, 13
BC847	Silicon planar epitaxial transistor	SC04	5, 13
BC847W	NPN general purpose transistor	SC04	5, 13
BC848	Silicon planar epitaxial transistor	SC04	13
BC848W	NPN general purpose transistor	SC04	13
BC849	Silicon planar epitaxial transistor	SC04	17, 18

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
BC849W	NPN general purpose transistor	SC04	17, 18
BC850	Silicon planar epitaxial transistor	SC04	17, 18
BC850W	NPN general purpose transistor	SC04	17, 18
BC856	Silicon planar epitaxial transistor	SC04	6, 15
BC856W	PNP general purpose transistor	SC04	6, 15
BC857	Silicon planar epitaxial transistor	SC04	6, 15
BC857W	PNP general purpose transistor	SC04	6, 15
BC858	Silicon planar epitaxial transistor	SC04	6, 15
BC858W	PNP general purpose transistor	SC04	6, 15
BC859	Silicon planar epitaxial transistor	SC04	17, 18
BC859W	PNP general purpose transistor	SC04	17, 18
BC860	Silicon planar epitaxial transistor	SC04	17, 18
BC860W	PNP general purpose transistor	SC04	17, 18
BC868	Silicon planar epitaxial transistor	SC04	5, 13
BC869	Silicon planar epitaxial transistor	SC04	6, 15
BC875	Small-signal Darlington transistor	SC04	21, 22
BC876	Small-signal Darlington transistor	SC04	10, 21
BC877	Small-signal Darlington transistor	SC04	21, 22
BC878	Small-signal Darlington transistor	SC04	10, 21
BC879	Small-signal Darlington transistor	SC04	21, 22
BC880	Small-signal Darlington transistor	SC04	10, 21
BCF29	Silicon planar epitaxial transistor	SC04	17, 18
BCF30	Silicon planar epitaxial transistor	SC04	17, 18
BCF32	Silicon planar epitaxial transistor	SC04	17, 18
BCF33	Silicon planar epitaxial transistor	SC04	17, 18
BCF81	Silicon planar epitaxial transistor	SC04	17, 18
BCP51	Silicon planar epitaxial transistor	SC04	6, 15
BCP52	Silicon planar epitaxial transistor	SC04	6, 15
BCP53	Silicon planar epitaxial transistor	SC04	6, 15
BCP54	Silicon planar epitaxial transistor	SC04	5, 13
BCP55	Silicon planar epitaxial transistor	SC04	5, 13
BCP56	Silicon planar epitaxial transistor	SC04	5, 13
BCP68	Silicon planar epitaxial transistor	SC04	5, 13
BCP69	Silicon planar epitaxial transistor	SC04	6, 15
BCV26	Silicon planar Darlington transistor	SC04	6, 15
BCV27	Silicon planar Darlington transistor	SC04	5, 13
BCV28	Small-signal Darlington transistor	SC04	6, 15
BCV29	Small-signal Darlington transistor	SC04	5, 13
BCV46	Silicon planar Darlington transistor	SC04	6, 15
BCV47	Silicon planar Darlington transistor	SC04	5, 13
BCV48	Small-signal Darlington transistor	SC04	6, 15
BCV49	Small-signal Darlington transistor	SC04	5, 13
BCV61	Silicon planar epitaxial transistor	SC04	5, 13
BCV62	Silicon planar epitaxial transistor	SC04	6, 15
BCV63	Silicon planar transistor	SC04	5, 13
BCV64	Silicon planar transistor	SC04	6, 15
BCV65	Silicon planar transistor	SC04	5, 13, 15
BCV71	Silicon planar epitaxial transistor	SC04	5, 13
BCV72	Silicon planar epitaxial transistor	SC04	5, 13
BCW29	Silicon planar epitaxial transistor	SC04	6, 15
BCW30	Silicon planar epitaxial transistor	SC04	6, 15
BCW31	Silicon planar epitaxial transistor	SC04	5, 13
BCW32	Silicon planar epitaxial transistor	SC04	5, 13
BCW33	Silicon planar epitaxial transistor	SC04	5, 13
BCW60 series	Silicon planar epitaxial transistors	SC04	5
BCW60A	Silicon planar epitaxial transistor	SC04	13

Alphanumeric index

type number	description	hand book	page 4–
BCW60B	Silicon planar epitaxial transistor	SC04	13
BCW60C	Silicon planar epitaxial transistor	SC04	13
BCW60D	Silicon planar epitaxial transistor	SC04	13
BCW61 series	Silicon planar epitaxial transistors	SC04	6
BCW61A	Silicon planar epitaxial transistor	SC04	15
BCW61B	Silicon planar epitaxial transistor	SC04	15
BCW61C	Silicon planar epitaxial transistor	SC04	15
BCW61D	Silicon planar epitaxial transistor	SC04	15
BCW69	Silicon planar epitaxial transistor	SC04	6, 15
BCW70	Silicon planar epitaxial transistor	SC04	6, 15
BCW71	Silicon planar epitaxial transistor	SC04	5, 13
BCW72	Silicon planar epitaxial transistor	SC04	5, 13
BCW81	Silicon planar epitaxial transistor	SC04	5, 13
BCW89	Silicon planar epitaxial transistor	SC04	6, 15
BCX17	Silicon planar epitaxial transistor	SC04	6, 15
BCX18	Silicon planar epitaxial transistor	SC04	6, 15
BCX19	Silicon planar epitaxial transistor	SC04	5, 13
BCX20	Silicon planar epitaxial transistor	SC04	5, 13
BCX22	Silicon planar epitaxial transistor	sales	7
BCX23	Silicon planar epitaxial transistor	sales	10
BCX51	Silicon planar epitaxial transistor	SC04	6, 15
BCX52	Silicon planar epitaxial transistor	SC04	6, 15
BCX53	Silicon planar epitaxial transistor	SC04	6, 15
BCX54	Silicon planar epitaxial transistor	SC04	5, 13
BCX55	Silicon planar epitaxial transistor	SC04	5, 13
BCX56	Silicon planar epitaxial transistor	SC04	5, 13
BCX58	NPN silicon planar epitaxial transistor	SC04	5, 7, 22
BCX70 series	Silicon planar epitaxial transistors	SC04	5
BCX70G	Silicon planar epitaxial transistor	SC04	13
BCX70H	Silicon planar epitaxial transistor	SC04	13
BCX70J	Silicon planar epitaxial transistor	SC04	13
BCX70K	Silicon planar epitaxial transistor	SC04	13
BCX71 series	Silicon planar epitaxial transistors	SC04	6
BCX71G	Silicon planar epitaxial transistor	SC04	15
BCX71H	Silicon planar epitaxial transistor	SC04	15
BCX71J	Silicon planar epitaxial transistor	SC04	15
BCX71K	Silicon planar epitaxial transistor	SC04	15
BCX78	PNP silicon planar epitaxial transistor	SC04	6, 10, 24
BCY57	Silicon planar epitaxial transistor	SC04	17, 18
BCY58	Silicon planar epitaxial transistor	SC04	5, 7, 22
BCY59	Silicon planar epitaxial transistor	SC04	5, 7, 22
BCY70	Silicon planar epitaxial transistor	SC04	18, 24
BCY71	Silicon planar epitaxial transistor	SC04	18, 24
BCY78	Silicon planar epitaxial transistor	SC04	10, 24
BCY79	Silicon planar epitaxial transistor	SC04	10, 24
BCY87	NPN silicon planar dual transistor for diff. amplifiers	SC04	5, 7
BCY88	NPN silicon planar dual transistor for diff. amplifiers	SC04	5, 7
BCY89	NPN silicon planar dual transistor for diff. amplifiers	SC04	5, 7
BD131	Silicon planar epitaxial power transistor	SC04	7
BD132	Silicon planar epitaxial power transistor	SC04	10
BD135	Silicon planar epitaxial power transistor	SC04	5, 7
BD136	Silicon planar epitaxial power transistor	SC04	6, 10
BD137	Silicon planar epitaxial power transistor	SC04	5, 7
BD138	Silicon planar epitaxial power transistor	SC04	6, 10
BD139	Silicon planar epitaxial power transistor	SC04	5, 7
BD140	Silicon planar epitaxial power transistor	SC04	6, 10

Alphanumeric index

type number	description	hand book	page 4–
BD226	Silicon planar epitaxial power transistor	SC04	7
BD227	Silicon planar epitaxial power transistor	SC04	10
BD329	Silicon planar epitaxial power transistor	SC04	5, 7
BD330	Silicon planar epitaxial power transistor	SC04	6, 10
BD825	Silicon planar epitaxial power transistor	SC04	5, 7
BD826	Silicon planar epitaxial power transistor	SC04	6, 10
BD827	Silicon planar epitaxial power transistor	SC04	5, 7
BD828	Silicon planar epitaxial power transistor	SC04	6, 10
BD829	Silicon planar epitaxial power transistor	SC04	5, 7
BD830	Silicon planar epitaxial power transistor	SC04	6, 10
BD839	Silicon planar epitaxial power transistor	SC04	7
BDP31	NPN power transistor	SC04	13
BDP32	PNP power transistor	SC04	15
BDX35	Silicon planar epitaxial power transistor	SC04	7, 22
BDX36	Silicon planar epitaxial power transistor	SC04	22
BDX37	Silicon planar epitaxial power transistor	SC04	22
BDX42	NPN silicon planar Darlington transistor	SC04	7, 21
BDX43	NPN silicon planar Darlington transistor	SC04	7, 21
BDX44	NPN silicon planar Darlington transistor	SC04	7, 21
BDX45	PNP silicon planar Darlington transistor	SC04	10, 21
BDX46	PNP silicon planar Darlington transistor	SC04	10, 21
BDX47	PNP silicon planar Darlington transistor	SC04	10, 21
BF1100	Dual-gate MOS-FET	SC07	47, 84
BF1100R	Dual-gate MOS-FET	SC07	47, 84
BF1100WR	Dual-gate MOS-FET	SC07	47, 84
BF199	Silicon planar epitaxial transistor	SC04	20
BF240	HF silicon planar epitaxial transistor	SC04	19, 20
BF245A	N-channel silicon field-effect transistor	SC07	35, 36
BF245B	N-channel silicon field-effect transistor	SC07	35, 36
BF245C	N-channel silicon field-effect transistor	SC07	35, 36
BF246A	N-channel silicon field-effect transistor	SC07	35, 36
BF246B	N-channel silicon field-effect transistor	SC07	35, 36
BF246C	N-channel silicon field-effect transistor	SC07	35, 36
BF247A	N-channel silicon field-effect transistor	SC07	35, 36
BF247B	N-channel silicon field-effect transistor	SC07	35, 36
BF247C	N-channel silicon field-effect transistor	SC07	35, 36
BF256A	N-channel silicon field-effect transistor	SC07	35, 36
BF256B	N-channel silicon field-effect transistor	SC07	35, 36
BF256C	N-channel silicon field-effect transistor	SC07	35, 36
BF324	HF silicon planar epitaxial transistor	SC04	19, 20
BF370	Silicon planar epitaxial transistor	SC04	20-22
BF410A	N-channel silicon field-effect transistor	SC07	35, 36
BF410B	N-channel silicon field-effect transistor	SC07	35, 36
BF410C	N-channel silicon field-effect transistor	SC07	35, 36
BF410D	N-channel silicon field-effect transistor	SC07	35, 36
BF420	Silicon epitaxial transistor	SC04	28, 29
BF421	Silicon epitaxial transistor	SC04	28, 29
BF422	Silicon epitaxial transistor	SC04	28, 29
BF423	Silicon epitaxial transistor	SC04	28, 29
BF450	HF silicon planar epitaxial transistor	SC04	19, 20
BF457	Silicon planar epitaxial transistor	SC04	29
BF469	Silicon planar epitaxial transistor	SC04	28, 29
BF470	Silicon planar epitaxial transistor	SC04	28, 29
BF471	Silicon planar epitaxial transistor	SC04	28, 29
BF472	Silicon planar epitaxial transistor	SC04	28, 29
BF483	Silicon planar epitaxial transistor	SC04	28, 29

Alphanumeric index

type number	description	hand book	page 4–
BF485	Silicon planar epitaxial transistor	SC04	28, 29
BF486	Silicon planar epitaxial transistor	SC04	28, 29
BF487	Silicon planar epitaxial transistor	SC04	28, 29
BF488	Silicon planar epitaxial transistor	SC04	28, 29
BF494	Silicon planar epitaxial transistor	SC04	19, 20
BF495	Silicon planar epitaxial transistor	SC04	19, 20
BF496	Silicon planar transistor	sales	19, 20
BF510	N-channel silicon field-effect transistor	SC07	35, 37
BF511	N-channel silicon field-effect transistor	SC07	35, 37
BF512	N-channel silicon field-effect transistor	SC07	35, 37
BF513	N-channel silicon field-effect transistor	SC07	35, 37
BF545A	N-channel silicon junction field-effect transistor	SC07	35, 37
BF545B	N-channel silicon junction field-effect transistor	SC07	35, 37
BF545C	N-channel silicon junction field-effect transistor	SC07	37
BF547	NPN 1 GHz wideband transistor	SC14	47, 84, 88
BF547W	NPN 1 GHz wideband transistor	DS-SC14	47, 84, 88
BF550	Silicon planar epitaxial transistor	SC04	19, 20
BF556A	N-channel field-effect transistor	SC07	37
BF556B	N-channel field-effect transistor	SC07	37
BF556C	N-channel field-effect transistor	SC07	37
BF579	Silicon planar transistor	sales	20
BF583	Silicon planar epitaxial transistor	SC04	28, 29
BF584	Silicon planar epitaxial transistor	SC04	28, 29
BF585	Silicon planar epitaxial transistor	SC04	28, 29
BF586	Silicon planar epitaxial transistor	SC04	28, 29
BF587	Silicon planar epitaxial transistor	SC04	28, 29
BF588	Silicon planar epitaxial transistor	SC04	28, 29
BF620	Silicon epitaxial transistor	SC04	28, 30
BF621	Silicon epitaxial transistor	SC04	28, 30
BF622	Silicon epitaxial transistor	SC04	28, 30
BF623	Silicon epitaxial transistor	SC04	28, 30
BF689K	NPN 2 GHz wideband transistor	SC14	88
BF720	Silicon epitaxial transistor	SC04	28, 30
BF721	Silicon epitaxial transistor	SC04	28, 30
BF722	Silicon epitaxial transistor	SC04	28, 30
BF723	Silicon epitaxial transistor	SC04	28, 30
BF747	NPN 1 GHz wideband transistor	SC14	47, 84, 88
BF763	NPN 2 GHz wideband transistor	SC14	88
BF820	Silicon epitaxial transistor	SC04	28, 30
BF820W	NPN high voltage transistor	SC04	28, 30
BF821	Silicon epitaxial transistor	SC04	28, 30
BF822	Silicon epitaxial transistor	SC04	28, 30
BF822W	NPN high voltage transistor	SC04	28, 30
BF823	Silicon epitaxial transistor	SC04	28, 30
BF824	HF silicon planar epitaxial transistor	SC04	19, 20
BF824W	PNP RF transistor	SC04	19, 20
BF840	Silicon planar transistor	SC04	19, 20
BF841	Silicon planar transistor	SC04	19, 20
BF851A	N-channel junction FET	SC07	35, 36
BF851B	N-channel junction FET	SC07	35, 36
BF851C	N-channel junction FET	SC07	35, 36
BF857	Silicon planar video output transistor	SC04	29
BF861A	N-channel junction FET	SC07	35, 37
BF861B	N-channel junction FET	SC07	35, 37
BF861C	N-channel junction FET	SC07	35, 37
BF869	Silicon planar video output transistor	SC04	28, 29

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
BF870	Silicon planar video output transistor	SC04	28, 29
BF871	Silicon planar video output transistor	SC04	28, 29
BF872	Silicon planar video output transistor	SC04	28, 29
BF901	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF901R	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF904	N-channel dual gate MOS-FET	SC07	47, 84
BF904R	N-channel dual gate MOS-FET	SC07	47, 84
BF904WR	N-channel dual gate MOS-FET	SC07	47, 84
BF908	Dual gate MOS-FET	SC07	47, 84
BF908R	Dual gate MOS-FET	SC07	47, 84
BF908WR	N-channel dual gate MOS-FET	SC07	47, 84
BF909	N-channel dual gate MOS-FET	SC07	47, 84
BF909R	N-channel dual gate MOS-FET	SC07	47, 84
BF909WR	N-channel dual gate MOS-FET	SC07	47, 84
BF989	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF990A	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF990AR	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF991	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF992	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF992R	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF994S	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF996S	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF997	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF998	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BF998R	N-channel dual gate MOS-FET	SC07	47, 84
BF998WR	Silicon n-channel dual gate MOS-FET	SC07	47, 84
BFC505	NPN 6 GHz wideband transistor	sales	92, 94
BFC520	NPN 7 GHz wideband transistor	sales	92, 94
BFC540	NPN 9 GHz wideband transistor	sales	92, 94
BFE505	NPN 9 GHz wideband transistor	sales	92, 94
BFE520	NPN 9 GHz wideband transistor	sales	92, 94
BFE540	NPN 9 GHz wideband transistor	sales	92, 94
BFG10	NPN 2 GHz RF power transistor	DS-SC14	92, 94
BFG10W/X	2 GHz RF power transistor	sales	92, 94
BFG10/X	NPN 2 GHz RF power transistor	DS-SC14	92, 94
BFG11	NPN 2 GHz RF power transistor	DS-SC14	92, 94
BFG11W/X	2 GHz RF power transistor	sales	92, 94
BFG11/X	NPN 2 GHz RF power transistor	DS-SC14	92, 94
BFG135	NPN 7 GHz wideband transistor	SC14	91
BFG16A	NPN 2 GHz wideband transistor	SC14	88
BFG17A	NPN 3 GHz wideband transistor	SC14	88
BFG197	NPN 7 GHz wideband transistor	SC14	91
BFG197W	NPN 7 GHz wideband transistor	DS-SC14	91
BFG197W/X	NPN 7 GHz wideband transistor	DS-SC14	91
BFG197W/XR	NPN 7 GHz wideband transistor	DS-SC14	91
BFG197/X	NPN 7 GHz wideband transistor	SC14	91
BFG197/XR	NPN 7 GHz wideband transistor	SC14	91
BFG198	NPN 8 GHz wideband transistor	SC14	91
BFG25AW	NPN 5 GHz wideband transistor	DS-SC14	92, 94
BFG25AW/X	NPN 5 GHz wideband transistor	DS-SC14	92, 94
BFG25AW/XR	NPN 5 GHz wideband transistor	DS-SC14	92, 94
BFG25A/X	NPN 5 GHz wideband transistor	SC14	92
BFG31	PNP 5 GHZ wideband transistor	SC14	89
BFG35	NPN 4 GHz wideband transistor	SC14	89, 114
BFG505	NPN 9 GHz wideband transistor	SC14	92
BFG505W	NPN 9 GHz wideband transistor	DS-SC14	92, 94

Alphanumeric index

type number	description	hand book	page 4–
BFG505W/X	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG505W/XR	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG505/X	NPN 9 GHz wideband transistor	SC14	92
BFG505/XR	NPN 9 GHz wideband transistor	SC14	92
BFG520	NPN 9 GHz wideband transistor	SC14	92
BFG520W	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG520W/X	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG520W/XR	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG520/X	NPN 9 GHz wideband transistor	SC14	92
BFG520/XR	NPN 9 GHz wideband transistor	SC14	92
BFG540	NPN 9 GHz wideband transistor	SC14	92
BFG540W	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG540W/X	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG540W/XR	NPN 9 GHz wideband transistor	DS-SC14	92, 94
BFG540/X	NPN 9 GHz wideband transistor	SC14	92
BFG540/XR	NPN 9 GHz wideband transistor	SC14	92
BFG541	NPN 9 GHz wideband transistor	SC14	92
BFG590	NPN 8 GHz wideband transistor	SC14	92
BFG590W	NPN 5 GHz wideband transistor	DS-SC14	92, 94
BFG590W/X	NPN 5 GHz wideband transistor	DS-SC14	92, 94
BFG590W/XR	NPN 5 GHz wideband transistor	DS-SC14	92, 94
BFG590/X	NPN 8 GHz wideband transistor	SC14	92
BFG590/XR	NPN 8 GHz wideband transistor	SC14	92
BFG591	NPN 8 GHz wideband transistor	SC14	92
BFG67	NPN 8 GHz wideband transistor	SC14	47, 84, 91
BFG67W	NPN 8 GHz wideband transistor	DS-SC14	91
BFG67W/X	NPN 8 GHz wideband transistor	DS-SC14	91
BFG67W/XR	NPN 8 GHz wideband transistor	DS-SC14	91
BFG67/X	NPN 8 GHz wideband transistor	SC14	91
BFG67/XR	NPN 8 GHz wideband transistor	SC14	91
BFG92A	NPN 5 GHz wideband transistor	SC14	89
BFG92AW	NPN 6 GHz wideband transistor	DS-SC14	89, 90
BFG92AW/X	NPN 6 GHz wideband transistor	DS-SC14	89, 90
BFG92AW/XR	NPN 6 GHz wideband transistor	DS-SC14	89, 90
BFG92A/X	NPN 5 GHz wideband transistor	SC14	89
BFG92A/XR	NPN 5 GHz wideband transistor	SC14	89
BFG93A	NPN 6 GHz wideband transistor	SC14	89
BFG93AW	NPN 7 GHz wideband transistor	DS-SC14	89, 90
BFG93AW/X	NPN 7 GHz wideband transistor	DS-SC14	89, 90
BFG93AW/XR	NPN 7 GHz wideband transistor	DS-SC14	89, 90
BFG93A/X	NPN 6 GHz wideband transistor	SC14	89
BFG93A/XR	NPN 6 GHz wideband transistor	SC14	89
BFG94	NPN 6 GHz wideband transistor	SC14	89
BFG97	NPN 5 GHz wideband transistor	SC14	89
BFM505	NPN 9 GHz wideband transistor	sales	92, 94
BFM520	NPN 9 GHz wideband transistor	sales	92, 94
BFM540	NPN 9 GHz wideband transistor	sales	92, 94
BFP91A	NPN 6 GHz wideband transistor	SC14	89
BFP96	NPN 5 GHz wideband transistor	SC14	89
BFQ131	NPN wideband transistor	sales	96, 114
BFQ135	NPN 6.5 GHz wideband transistor	SC14	91
BFQ136	NPN 4 GHz wideband transistor	SC14	89, 90
BFQ149	PNP 5 GHz wideband transistor	SC14	89, 90
BFQ161	NPN 1 GHz video transistor	SC14	96
BFQ162	NPN 1 GHz video transistor	SC14	96
BFQ166	NPN 1 GHz video transistor	SC14	96

Alphanumeric index

type number	description	hand book	page 4–
BFQ17	NPN 1 GHz wideband transistor	SC14	88
BFQ18A	NPN 4 GHz wideband transistor	SC14	89
BFQ19	NPN 5 GHz wideband transistor	SC14	89
BFQ221	Video transistor	sales	96
BFQ222	Video transistor	sales	96
BFQ225	Video transistor	sales	96
BFQ226	NPN video transistor	sales	96
BFQ231	NPN 1 HGz video transistor	SC14	96
BFQ231A	NPN 1 GHz video transistor	SC14	96
BFQ232	NPN 1 GHz video transistor	SC14	96
BFQ232A	NPN 1 GHz video transistor	SC14	96
BFQ235	NPN 1 GHz video transistor	SC14	96
BFQ235A	NPN 1 GHz video transistor	SC14	96
BFQ236	NPN 1 GHz video transistor	SC14	96
BFQ236A	NPN 1 GHz video transistor	SC14	96
BFQ24	PNP 5 GHz wideband transistor	SC14	89
BFQ241	Video transistor	sales	96
BFQ242	Video transistor	sales	96
BFQ245	Video transistor	sales	96
BFQ246	Video transistor	sales	96
BFQ251	PNP 1 GHz video transistor	SC14	96
BFQ251A	PNP 1 GHz video transistor	SC14	96
BFQ252	PNP 1 GHz video transistor	SC14	96
BFQ252A	PNP 1 GHz video transistor	SC14	96
BFQ255	PNP 1 GHz video transistor	SC14	96
BFQ255A	PNP 1 GHz video transistor	SC14	96
BFQ256	PNP 1 GHz video transistor	SC14	96
BFQ256A	PNP 1 GHz video transistor	SC14	96
BFQ262	NPN 1 GHz video transistor	SC14	96
BFQ262A	NPN 1 GHz video transistor	SC14	96
BFQ265	NPN high frequency high voltage transistor	SC14	96
BFQ265A	NPN high frequency high voltage transistor	SC14	96
BFQ270	NPN 6 GHz wideband transistor	SC14	91
BFQ34	NPN 4 GHz wideband transistor	SC14	89, 105
BFQ42	VHF power transistor	SC08a	99
BFQ43	VHF power transistor	SC08a	99
BFQ43S	VHF power transistor	SC08a	99
BFQ52	PNP 5 GHz wideband transistor	SC14	89
BFQ53	NPN 5 GHz wideband transistor	SC14	89
BFQ540	NPN wideband dual transistor	sales	92
BFQ621	NPN wideband transistor	sales	92
BFQ63	NPN 5 GHz wideband transistor	SC14	90
BFQ66	NPN 8 GHz wideband transistor	SC14	91
BFQ67	NPN 8 GHz wideband transistor	SC14	91
BFQ67W	NPN 8 GHz wideband transistor	SC14	91
BFQ68	NPN 4 GHz wideband transistor	SC14	89, 90, 105
BFR106	NPN 5 GHz wideband transistor	SC14	89, 90
BFR29	N-channel insulated gate MOS-FET	SC07	41
BFR30	N-channel silicon field-effect transistor	SC07	35, 37
BFR31	N-channel silicon field-effect transistor	SC07	35, 37
BFR505	NPN 9 GHz wideband transistor	SC14	92
BFR520	NPN 9 GHz wideband transistor	SC14	92
BFR53	NPN 2 GHz wideband transistor	SC14	88
BFR54	Silicon planar epitaxial transistor	SC04	20-22
BFR540	NPN 9 GHz wideband transistor	SC14	92
BFR90A	NPN 5 GHz wideband transistor	SC14	102

type number	description	hand book	page 4–
BFR91A	NPN 6 GHz wideband transistor	SC14	102
BFR92	NPN 5 GHz wideband transistor	SC14	89, 90
BFR92A	NPN 5 GHz wideband transistor	SC14	47, 84, 89, 90
BFR92AW	NPN 5 GHz wideband transistor	SC14	89, 90
BFR93	NPN 5 GHz wideband transistor	SC14	89, 90
BFR93A	NPN 6 GHz wideband transistor	SC14	47, 84, 89, 90
BFR93AW	NPN 6 GHz wideband transistor	SC14	89, 90
BFR94A	NPN 3.5 GHz wideband transistor	SC14	88
BFR95	NPN 3.5 GHz wideband transistor	SC14	88
BFR96S	NPN 5 GHz wideband transistor	SC14	105
BFS17	NPN 1 GHz wideband transistor	SC14	47, 84, 88
BFS17A	NPN 3 GHz wideband transistor	SC14	47, 84, 88
BFS17W	NPN 1 GHz wideband transistor	SC14	88
BFS19	Silicon planar epitaxial transistor	SC04	19, 20
BFS20	Silicon planar epitaxial transistor	SC04	20
BFS22A	VHF power transistor	SC08a	99
BFS23A	VHF power transistor	SC08a	100
BFS25A	NPN 5 GHz wideband transistor	SC14	92
BFS505	NPN 9 GHz wideband transistor	SC14	92
BFS520	NPN 9 GHz wideband transistor	SC14	92
BFS540	NPN 9 GHz wideband transistor	SC14	92
BFT25	NPN 2 GHz wideband transistor	SC14	88
BFT25A	NPN 5 GHz wideband transistor	SC14	92
BFT46	N-channel silicon FET	SC07	35, 37
BFT92	PNP 5 GHz wideband transistor	SC14	89, 90
BFT92W	PNP 4 GHz wideband transistor	DS-SC14	89, 90
BFT93	PNP 5 GHz wideband transistor	SC14	89, 90
BFT93W	PNP 4 GHz wideband transistor	DS-SC14	89, 90
BFU308	N-channel silicon field-effect transistor	SC07	35, 36
BFU309	N-channel silicon field-effect transistor	SC07	35, 36
BFU310	N-channel silicon field-effect transistor	SC07	35, 36
BFW10	N-channel silicon FET	SC07	35, 36
BFW11	N-channel silicon FET	SC07	35, 36
BFW12	N-channel silicon FET	SC07	35, 36
BFW13	N-channel silicon FET	SC07	35, 36
BFW16A	NPN 1 GHz wideband transistor	SC14	88
BFW30	NPN 2 GHz wideband transistor	SC14	88
BFX30	Silicon planar epitaxial transistor	SC04	10, 21, 24
BFX34	Silicon planar epitaxial transistor	SC04	7, 22
BFX85	Silicon planar epitaxial transistor	SC04	5, 7, 22
BFY50	Silicon planar epitaxial transistor	SC04	5, 7, 22
BFY51	Silicon planar epitaxial transistor	SC04	5, 7, 22
BFY52	Silicon planar epitaxial transistor	SC04	5, 7, 22
BFY90	NPN 1 GHz wideband transistor	SC14	88
BGD102	CATV power doubler amplifier module	SC16	115
BGD104	CATV power doubler amplifier module	SC16	115
BGD106	CATV power doubler amplifier module	SC16	115
BGD108	CATV amplifier module	SC16	115
BGD502	CATV power doubler amplifier module	SC16	116
BGD504	CATV power doubler amplifier module	SC16	116
BGD506	CATV amplifier module	SC16	116
BGD508	CATV amplifier module	SC16	116
BGD601	CATV amplifier module	SC16	116
BGD602	CATV amplifier module	SC16	116
BGD602D	CATV amplifier module	SC16	116
BGD702	CATV amplifier module	SC16	117

Alphanumeric index

type number	description	hand book	page 4–
BGD702D	CATV amplifier module	sales	117
BGD704	CATV amplifier module	SC16	117
BGD802	CATV amplifier module	sales	117
BGD885	CATV amplifier module	SC16	117
BGE884	CATV amplifier module	SC16	117
BGE885	CATV amplifier module	SC16	117
BGE887	CATV amplifier module	SC16	117
BGX881	CATV amplifier module	SC16	117
BGX885N	CATV amplifier module	SC16	117
BGY1085A	CATV amplifier module	SC16	117
BGY113A	UHF amplifier module	SC09	119
BGY113B	UHF amplifier module	SC09	119
BGY113C	UHF amplifier module	SC09	119
BGY114A	SHF amplifier module	SC09	120
BGY114B	SHF amplifier module	SC09	120
BGY114C	SHF amplifier module	SC09	120
BGY115A	SHF amplifier module	SC09	119
BGY115B	SHF amplifier module	SC09	119
BGY115C	SHF amplifier module	SC09	119
BGY115C/P	SHF amplifier module	sales	119
BGY115D	SHF amplifier module	SC09	119
BGY116D	SHF amplifier module	SC09	120
BGY116E	SHF amplifier module	SC09	120
BGY118A	SHF amplifier module	SC09	119
BGY118B	SHF amplifier module	SC09	119
BGY118C	SHF amplifier module	SC09	119
BGY118D	SHF amplifier module	SC09	119
BGY119A	SHF amplifier module	SC09	119
BGY119B	SHF amplifier module	SC09	119
BGY119C	SHF amplifier module	SC09	119
BGY119D	SHF amplifier module	sales	119
BGY120A	SHF amplifier module	sales	119
BGY120B	SHF amplifier module	sales	119
BGY120D	SHF amplifier module	sales	119
BGY122A	SHF amplifier module	sales	119
BGY122B	SHF amplifier module	sales	119
BGY122D	SHF amplifier module	sales	119
BGY132	VHF amplifier module	SC09	119
BGY133	VHF amplifier module	SC09	119
BGY135	VHF power amplifier module	SC09	119
BGY136	VHF power amplifier module	SC09	119
BGY143	VHF power amplifier module	SC09	119
BGY145A	VHF amplifier module	SC09	119
BGY145B	VHF amplifier module	SC09	119
BGY148A	UHF amplifier module	sales	119
BGY148B	UHF amplifier module	sales	119
BGY152	UHF amplifier module	sales	119
BGY200	UHF amplifier module	SC09	120
BGY201	UHF amplifier module	SC09	120
BGY202	UHF amplifier module	SC09	120
BGY203	UHF amplifier module	SC09	120
BGY204	UHF amplifier module	SC09	120
BGY205	UHF amplifier module	SC09	120
BGY206	GSM amplifier module	sales	120
BGY207	GSM amplifier module	sales	120
BGY32	VHF power amplifier module	SC09	119

Alphanumeric index

type number	description	hand book	page 4–
BGY33	VHF power amplifier module	SC09	119
BGY35	VHF power amplifier module	SC09	119
BGY36	VHF power amplifier module	SC09	119
BGY43	VHF power amplifier module	SC09	119
BGY46A	UHF power amplifier module	SC09	119
BGY46B	UHF power amplifier module	SC09	119
BGY47A	UHF power amplifier module	SC09	119
BGY47B	UHF amplifier module	SC09	119
BGY580	CATV amplifier module	SC16	116
BGY581	CATV amplifier module	SC16	116
BGY582	CATV amplifier module	SC16	116
BGY583	CATV amplifier module	SC16	116
BGY584	CATV amplifier module	SC16	116
BGY584A	CATV amplifier module	SC16	116
BGY585	CATV amplifier module	SC16	116
BGY585A	CATV amplifier module	SC16	116
BGY586	CATV amplifier module	SC16	116
BGY587	CATV amplifier module	SC16	116
BGY587B	CATV amplifier module	SC16	116
BGY588	CATV amplifier module	SC16	116
BGY61	CATV amplifier module	SC16	115
BGY65	CATV amplifier module	SC16	115
BGY66B	CATV amplifier module	SC16	115
BGY67	CATV amplifier module	SC16	115
BGY67A	CATV amplifier module	SC16	115
BGY67BO	CATV optical receiver module	sales	117
BGY67B/2	CATV amplifier module	sales	115
BGY681	CATV amplifier module	SC16	116
BGY683	CATV amplifier module	SC16	116
BGY685	CATV amplifier module	SC16	116
BGY685A	CATV amplifier module	sales	116
BGY685AD	Hybrid CATV amplifier module	SC16	116
BGY685AL	Hybrid CATV amplifier module	SC16	116
BGY687	CATV amplifier module	SC16	116
BGY687B	CATV amplifier module	SC16	116
BGY785A	CATV amplifier module	SC16	117
BGY785AD	CATV amplifier module	SC16	117
BGY787	CATV amplifier module	SC16	117
BGY80	CATV amplifier module	SC16	115
BGY81	CATV amplifier module	SC16	115
BGY82	CATV amplifier module	SC16	115
BGY83	CATV amplifier module	SC16	115
BGY84	CATV amplifier module	SC16	115
BGY84A	CATV amplifier module	SC16	115
BGY85	CATV amplifier module	SC16	115
BGY85A	CATV amplifier module	SC16	115
BGY85H/01	CATV amplifier module	SC16	115
BGY86	CATV amplifier module	SC16	115
BGY87	CATV amplifier module	SC16	115
BGY87B	CATV amplifier module	SC16	115
BGY88	CATV amplifier module	SC16	115
BGY883	CATV amplifier module	SC16	117
BGY885A	CATV amplifier module	SC16	117
BGY885B	CATV amplifier module	SC16	117
BGY887	CATV amplifier module	sales	117
BGY887B	CATV amplifier module	SC16	117

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
BGY887BO	CATV optical receiver module	SC16	117
BGY888	CATV amplifier module	SC16	117
BGY89	CATV amplifier module	SC16	115
BLF145	HF power MOS transistor	SC08b	106
BLF147	VHF power MOS transistor	SC08b	106
BLF175	HF/VHF power MOS transistor	SC08b	106
BLF177	HF/VHF power MOS transistor	SC08b	106
BLF221	HF/VHF power MOS transistor	SC08b	106
BLF221B	HF/VHF power MOS transistor	SC08b	106
BLF225	VHF power MOS transistor	SC08b	106
BLF241	HF/VHF power MOS transistor	SC08b	106
BLF241E	HF/VHF power MOS transistor	SC08b	106
BLF242	HF/VHF power MOS transistor	SC08b	106, 107
BLF244	VHF power MOS transistor	SC08b	106, 107
BLF245	VHF power MOS transistor	SC08b	106, 107
BLF245B	VHF push-pull power MOS transistor	SC08b	106
BLF245C	VHF push-pull power MOS transistor	SC08b	106
BLF246	VHF power MOS transistor	SC08b	106
BLF246B	VHF push-pull power MOS transistor	SC08b	106
BLF247B	VHF push-pull power MOS transistor	DS-SC08b	106
BLF248	VHF push-pull power MOS transistor	SC08b	106, 107
BLF276	VHF power MOS transistor	SC08b	106, 107
BLF277	VHF power MOS transistor	SC08b	106
BLF278	VHF push-pull power MOS transistor	SC08b	106, 107
BLF346	VHF power MOS transistor	SC08b	107
BLF348	VHF linear push-pull power MOS transistor	SC08b	107
BLF368	VHF push-pull power MOS transistor	SC08b	107
BLF378	VHF push-pull power MOS transistor	SC08b	107
BLF521	UHF power MOS transistor	SC08b	107
BLF522	UHF power MOS transistor	SC08b	107
BLF542	UHF power MOS transistor	SC08b	107
BLF543	UHF power MOS transistor	SC08b	107
BLF544	UHF power MOS transistor	SC08b	107
BLF544B	UHF push-pull power MOS transistor	SC08b	107
BLF545	UHF push-pull power MOS transistor	SC08b	107
BLF546	UHF push-pull power MOS transistor	SC08b	107
BLF547	UHF push-pull power MOS transistor	SC08b	107
BLF548	UHF push-pull power MOS transistor	SC08b	107
BLT13	SHF 1.8 GHz bipolar transistor	sales	103
BLT50	UHF power transistor	SC08a	101
BLT53	UHF power transistor	SC08a	101
BLT61	SHF 900 MHz bipolar transistor	sales	102
BLT70	SHF 900 MHz bipolar transistor	sales	102
BLT71	SHF 900 MHz bipolar transistor	sales	102
BLT72	SHF 900 MHz bipolar transistor	sales	102
BLT80	UHF power transistor	SC08a	102
BLT81	UHF power transistor	SC08a	102
BLT82	SHF 900 MHz bipolar transistor	sales	102
BLT91/SL	UHF power transistor	SC08a	102
BLT92/SL	UHF power transistor	SC08a	102
BLT93/SL	UHF power transistor	SC08a	102
BLU11/SL	UHF power transistor	SC08a	101
BLU20/12	UHF power transistor	SC08a	101
BLU30/12	UHF power transistor	SC08a	101
BLU45/12	UHF power transistor	SC08a	101
BLU56	UHF power transistor	SC08a	101

Alphanumeric index

type number	description	hand book	page 4–
BLU60/12	UHF power transistor	SC08a	101
BLU60/28	UHF power transistor	SC08a	101
BLU86	UHF power transistor	SC08a	102
BLU97	UHF power transistor	SC08a	101
BLU99	UHF power transistor	SC08a	101, 102
BLU99/SL	UHF power transistor	SC08a	102
BLV10	VHF power transistor	SC08a	97, 99
BLV100	UHF power transistor	SC08a	103
BLV101A	UHF power transistor	SC08a	103
BLV101B	UHF power transistor	SC08a	103
BLV103	UHF power transistor	SC08a	103
BLV11	VHF power transistor	SC08a	97-99
BLV12	VHF power transistor	SC08a	99
BLV193	UHF power transistor	SC08a	102
BLV194	UHF power transistor	SC08a	102
BLV20	VHF power transistor	SC08a	97, 100
BLV2040	SHF 900-960 MHz bipolar transistor	sales	103
BLV2042	SHF 900-960 MHz bipolar transistor	sales	103
BLV2044	SHF 900-960 MHz bipolar transistor	sales	103
BLV2045	SHF 900-960 MHz bipolar transistor	sales	103
BLV21	VHF power transistor	SC08a	97, 98, 100, 104
BLV25	VHF power transistor	SC08a	104
BLV30	VHF linear power transistor	SC08a	105
BLV31	VHF linear power transistor	SC08a	105
BLV32F	VHF linear power transistor	SC08a	105
BLV33	VHF linear power transistor	SC08a	105
BLV33F	VHF linear power transistor	SC08a	105
BLV36	VHF linear push-pull power transistor	SC08a	105
BLV45/12	VHF power transistor	SC08a	99
BLV57	UHF linear push-pull power transistor	SC08a	105
BLV58	UHF linear push-pull power transistor	SC08a	105
BLV59	UHF power transistor	SC08a	105
BLV62	UHF linear push-pull power transistor	SC08a	105
BLV75/12	VHF power transistor	SC08a	99
BLV80/28	VHF power transistor	SC08a	100, 104
BLV859	UHF power transistor	sales	105
BLV862	UHF power transistor	sales	105
BLV90	UHF power transistor	SC08a	102
BLV902	SHF power transistor	sales	103
BLV904	SHF power transistor	sales	103
BLV909	SHF power transistor	sales	103
BLV910	UHF power transistor	sales	103
BLV91/SL	UHF power transistor	SC08a	102
BLV92	UHF power transistor	SC08a	102
BLV920	UHF power transistor	sales	103
BLV93	UHF power transistor	SC08a	102
BLV934	UHF power transistor	sales	103
BLV935	SHF power transistor	sales	103
BLV945A	UHF push-pull power transistor	SC08a	103
BLV945B	UHF push-pull power transistor	SC08a	103
BLV946	UHF power transistor	SC08a	103
BLV948	UHF push-pull power transistor	SC08a	103
BLV95	UHF power transistor	SC08a	102
BLV950	SHF power transistor	sales	103
BLV956	SHF power transistor	sales	103
BLV958	SHF power transistor	sales	103

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
BLV97CE	UHF power transistor	SC08a	103
BLV98CE	UHF power transistor	SC08a	103
BLV99	UHF power transistor	SC08a	103
BLV99/SL	UHF power transistor	SC08a	103
BLW29	VHF power transistor	SC08a	99
BLW30	VHF power transistor	SC08a	99
BLW31	VHF power transistor	SC08a	99
BLW32	UHF linear power transistor	SC08a	105
BLW33	UHF linear power transistor	SC08a	105
BLW34	UHF linear power transistor	SC08a	105
BLW40	VHF power transistor	SC08a	99
BLW50F	HF/VHF power transistor	SC08a	97, 98
BLW60C	HF/VHF power transistor	sales	98, 99
BLW76	HF/VHF power transistor	SC08a	98, 104
BLW77	HF/VHF power transistor	SC08a	98, 100
BLW78	HF/VHF power transistor	SC08a	97, 98, 100, 104
BLW79	UHF power transistor	SC08a	99, 101
BLW80	UHF power transistor	SC08a	99, 101
BLW81	UHF power transistor	SC08a	99, 101
BLW83	HF/VHF power transistor	SC08a	97, 98
BLW84	VHF power transistor	SC08a	100
BLW85	HF/VHF power transistor	SC08a	98, 99
BLW86	HF/VHF power transistor	SC08a	97, 98, 100, 104
BLW87	VHF power transistor	SC08a	97-99
BLW89	UHF power transistor	SC08a	101
BLW898	UHF linear power transistor	sales	105
BLW90	UHF power transistor	SC08a	101, 104
BLW91	UHF power transistor	SC08a	101
BLW95	HF power transistor	SC08a	98
BLW96	HF/VHF power transistor	SC08a	97, 98
BLW97	HF power transistor	SC08a	98
BLW98	UHF linear power transistor	SC08a	105
BLW99	HF power transistor	SC08a	98
BLX13	HF/VHF power transistor	sales	97, 98
BLX13C	HF/VHF power transistor	SC08a	97, 98
BLX14	HF/VHF power transistor	SC08a	98
BLX15	HF/VHF power transistor	SC08a	98
BLX39	HF/VHF power transistor	SC08a	97, 98, 100, 104
BLX65	UHF/VHF transmitting transistor	SC08a	101
BLX65E	VHF/UHF power transistor	SC08a	101
BLX65ES	VHF/UHF power transistor	SC08a	101
BLX93A	UHF power transistor	sales	101
BLX94C	UHF power transistor	sales	101
BLX96	UHF linear power transistor	sales	105
BLX97	UHF linear power transistor	sales	105
BLX98	UHF linear power transistor	SC08a	105
BLY87C	VHF power transistor	SC08a	97, 99
BLY87C/01	VHF power transistor	SC08a	97, 99
BLY88C	VHF power transistor	SC08a	97-99
BLY88C/01	VHF power transistor	SC08a	97-99
BLY89C	VHF power transistor	SC08a	97-99
BLY91C	VHF power transistor	SC08a	97, 100
BLY91C/01	VHF power transistor	SC08a	97, 100
BLY92C	VHF power transistor	SC08a	97, 98, 100
BLY92C/01	VHF power transistor	SC08a	97, 98, 100
BLY93C	VHF power transistor	SC08a	100

Alphanumeric index

type number	description	hand book	page 4–
BLY94	VHF power transistor	SC08a	100
BR100/03	Silicon bi-directional trigger device	SC03	83
BR101	Silicon controlled switch	SC04	33
BR211 series	Breakover diodes	SC02	81
BRX44/PH	Thyristor	sales	34
BRX45/PH	Thyristor	sales	34
BRX46/PH	Thyristor	sales	34
BRX47/PH	Thyristor	sales	34
BRX48/PH	Thyristor	sales	34
BRX49/PH	Thyristor	sales	34
BRY39	Programmable unijunction transistor/Silicon contr. switch	SC04	33
BRY56	Programmable unijunction transistor	SC04	33
BRY61	Programmable unijunction transistor	SC04	33
BRY62	Silicon PNPN planar tetrode thyristor	SC04	33
BS107	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BS107A	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BS108	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BS170	N-channel vertical D-MOS transistor	SC07	42, 43
BS208	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BS250	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSD12	MOSFET n-channel depletion switching transistor	SC07	41
BSD212	MOSFET n-channel enhancement switching transistor	SC07	41
BSD213	MOSFET n-channel enhancement switching transistor	SC07	41
BSD214	MOSFET n-channel enhancement switching transistor	SC07	41
BSD215	MOSFET n-channel enhancement switching transistor	SC07	41
BSD22	MOSFET n-channel depletion switching transistor	SC07	41
BSD254	N-channel depletion mode vertical D-MOS transistor	SC07	42, 43
BSD254A	N-channel depletion mode vertical D-MOS transistor	SC07	42
BSD254AR	N-channel depletion mode vertical D-MOS transistor	SC07	42
BSN10	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSN10A	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSN20	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSN204	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSN204A	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSN205	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSN205A	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSN254	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSN254A	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSN274	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSN274A	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSN304	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSN304A	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP100	N-channel enhancement mode vertical D- MOS transistor	SC07	46
BSP106	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP107	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP108	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP110	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP120	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP121	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP122	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP124	N-channel depletion mode vertical D-MOS transistor	SC07	42, 43
BSP126	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP127	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSP128	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSP130	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP145	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43

Alphanumeric index

type number	description	hand book	page 4–
BSP15	Silicon planar epitaxial transistor	SC04	28, 30
BSP152	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSP16	Silicon planar epitaxial transistor	SC04	28, 30
BSP19	Silicon planar epitaxial transistor	SC04	28, 30
BSP20	Silicon planar epitaxial transistor	SC04	28, 30
BSP204	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP204A	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP205	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP206	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP220	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP225	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP230	P-channel enhancement mode vertical D-MOS transistor	SC07	45
BSP250	P-channel enhancement mode vertical D-MOS transistor	SC07	46
BSP254	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP254A	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP30	Silicon planar epitaxial transistor	SC04	6, 15
BSP304	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP304A	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSP31	Silicon planar epitaxial transistor	SC04	6, 15
BSP32	Silicon planar epitaxial transistor	SC04	6, 15
BSP33	Silicon planar epitaxial transistor	SC04	6, 15
BSP40	Silicon planar epitaxial transistor	SC04	5, 13
BSP41	Silicon planar epitaxial transistor	SC04	5, 13
BSP43	Silicon planar epitaxial transistor	SC04	5, 13
BSP50	NPN silicon planar Darlington transistor	SC04	21, 26
BSP51	NPN silicon planar Darlington transistor	SC04	21, 26
BSP52	NPN silicon planar Darlington transistor	SC04	21, 26
BSP60	Silicon planar Darlington transistor	SC04	15, 21, 26
BSP61	Silicon planar Darlington transistor	SC04	15, 21, 26
BSP62	Silicon planar Darlington transistor	SC04	15, 21, 26
BSP89	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSP92	P-channel enhancement mode vertical D-MOS transistor	SC07	45
BSR12	Silicon low-power switching transistor	SC10	26, 95
BSR13	Silicon planar epitaxial transistor	SC04	14, 21, 26
BSR14	Silicon planar epitaxial transistor	SC04	14, 21, 26
BSR15	Silicon planar epitaxial transistor	SC04	16, 21, 26
BSR16	Silicon planar epitaxial transistor	SC04	16, 21, 26
BSR17A	Silicon planar epitaxial transistor	SC04	21, 26
BSR18A	Silicon low-power switching transistor	SC04	21, 26
BSR19	Silicon NPN high-voltage transistor	SC04	28, 30
BSR19A	Silicon NPN high-voltage transistor	SC04	28, 30
BSR20	Silicon PNP high-voltage transistor	SC04	28, 30
BSR20A	Silicon PNP high-voltage transistor	SC04	28, 30
BSR30	Silicon planar epitaxial transistor	SC04	6, 16, 26
BSR31	Silicon planar epitaxial transistor	SC04	6, 16, 26
BSR32	Silicon planar epitaxial transistor	SC04	16, 26
BSR33	Silicon planar epitaxial transistor	SC04	6, 16, 26
BSR40	Silicon planar epitaxial transistor	SC04	5, 14, 26
BSR41	Silicon planar epitaxial transistor	SC04	5, 14, 26
BSR42	Silicon planar epitaxial transistor	SC04	5, 14, 26
BSR43	Silicon planar epitaxial transistor	SC04	5, 14, 26
BSR50	NPN Darlington transistor	SC04	8, 21, 22
BSR51	NPN Darlington transistor	SC04	8, 21, 22
BSR52	NPN Darlington transistor	SC04	8, 21, 22
BSR56	N-channel FET	SC07	38, 39
BSR57	N-channel FET	SC07	38, 39

Alphanumeric index

type number	description	hand book	page 4–
BSR58	N-channel FET	SC07	38, 39
BSR60	PNP Darlington transistor	SC04	10, 21, 24
BSR61	PNP Darlington transistor	SC04	10, 21, 24
BSR62	PNP Darlington transistor	SC04	10, 21, 24
BSS100	N-channel enhancement mode vertical D-MOS transistor	SC07	43
BSS110	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSS123	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSS131	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSS138	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSS192	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSS46	PNP switching transistor	sales	10, 24
BSS46-10	PNP switching transistor	sales	24
BSS50	NPN Darlington transistor	SC04	8, 22
BSS51	NPN Darlington transistor	SC04	8, 22
BSS52	NPN Darlington transistor	SC04	8, 21, 22
BSS62	PNP Darlington transistor	SC04	11, 21, 24
BSS63	High-voltage PNP Transistor	SC04	6, 16, 26
BSS64	High-voltage NPN transistor	SC04	5, 14, 26
BSS68	High-voltage PNP transistor	SC04	6, 11, 24
BSS83	MOSFET n-channel enhancement switching transistor	SC07	41
BSS84	P-channel enhancement mode vertical D-MOS FET	SC07	45
BSS87	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSS88	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BSS89	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSS91	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BSS92	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BST100	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BST110	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BST120	P-channel enhancement mode vertical D-MOS transistor	SC07	42, 45
BST122	P-channel enhancement mode vertical D-MOS trans istor	SC07	42, 45
BST124	N-channel depletion mode vertical D-MOS transistor	SC07	43
BST15	Silicon planar epitaxial transistor	SC04	28, 30
BST16	Silicon planar epitaxial transistor	SC04	28, 30
BST39	Silicon planar epitaxial transistor	SC04	28, 30
BST40	Silicon planar epitaxial transistor	SC04	28, 30
BST50	NPN Silicon planar Darlington transistor	SC04	14, 21, 26
BST51	NPN Silicon planar Darlington transistor	SC04	14, 21, 26
BST52	NPN Silicon planar Darlington transistor	SC04	14, 21, 26
BST60	PNP silicon planar Darlington transistor	SC04	16, 21, 26
BST61	PNP silicon planar Darlington transistor	SC04	16, 21, 26
BST62	PNP silicon planar Darlington transistor	SC04	16, 21, 27
BST70A	N-channel vertical D-MOS transistor	SC07	42, 43
BST72A	N-channel vertical D-MOS transistor	SC07	42, 43
BST74A	N-channel vertical D-MOS transistor	SC07	42, 43
BST76A	N-channel vertical D-MOS transistor	SC07	42, 43
BST78	High voltage n-channel vertical D-MOS transistor	SC07	42, 43
BST80	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BST82	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BST84	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 43
BST86	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 44
BSV12	PNP switching transistor	sales	24
BSV15	Silicon planar epitaxial transistor	SC04	6, 11, 24
BSV16	Silicon planar epitaxial transistor	SC04	6, 11, 24
BSV17	Silicon planar epitaxial transistor	SC04	6, 11, 24
BSV52	Silicon planar epitaxial transistor	SC04	21, 26
BSV64	Silicon planar epitaxial transistor	SC04	8, 22

Alphanumeric index

type number	description	hand book	page 4–
BSV78	N-channel FET	SC07	38, 39
BSV79	N-channel FET	SC07	38, 39
BSV80	N-channel FET	SC07	38, 39
BSV81	N-channel IG-MOS-FET	SC07	41
BSW65/PH	Silicon planar epitaxial transistor	sales	22
BSW66A	Silicon planar epitaxial transistor	SC04	8, 22
BSW66/PH	Silicon planar epitaxial transistor	sales	8
BSW67A	Silicon planar epitaxial transistor	SC04	8, 22
BSW67/PH	Silicon planar epitaxial transistor	sales	8
BSW68A	Silicon planar epitaxial transistor	SC04	8, 22
BSW68/PH	Silicon planar epitaxial transistor	sales	8
BSX19/PH	Silicon planar epitaxial transistor	sales	8
BSX20	Silicon planar epitaxial transistor	SC04	21, 22
BSX32	Silicon planar epitaxial transistor	SC04	21, 22
BSX45	Silicon planar epitaxial transistor	SC04	5, 8, 22
BSX46	Silicon planar epitaxial transistor	SC04	5, 8, 22
BSX47	Silicon planar epitaxial transistor	SC04	5, 8, 22
BSX49	Silicon planar epitaxial transistor	sales	22
BSX49/PH	Silicon planar epitaxial transistor	sales	22
BSX59	Silicon planar epitaxial transistor	SC04	21, 22
BSX60	Silicon planar epitaxial transistor	SC04	21, 22
BSX61	Silicon planar epitaxial transistor	SC04	21, 22
BSX62	Silicon planar epitaxial transistor	sales	22
BSX63	Silicon planar epitaxial transistor	sales	22
BSY18	Silicon planar epitaxial transistor	sales	22
BSY34	Silicon planar epitaxial transistor	sales	22
BSY52	Silicon planar epitaxial transistor	sales	8
BSY53	Silicon planar epitaxial transistor	sales	8
BSY54	Silicon planar epitaxial transistor	sales	8
BSY55	Silicon planar epitaxial transistor	sales	8
BSY56	Silicon planar epitaxial transistor	sales	8
BSY63	Silicon planar epitaxial transistor	sales	22
BSY79	Silicon planar epitaxial transistor	sales	8
BSY95A	Silicon planar epitaxial transistor	sales	22
BT134 series	Triacs	SC03	82
BT134W series	Triacs	SC03	82
BT136 series	Triacs	SC03	82
BT136F series	Full-pack triacs	SC03	82
BT136X series	Triacs	sales	82
BT137 series	Triacs	SC03	82
BT137F series	Full-pack triacs	SC03	82
BT137X series	Thyristors	sales	82
BT138 series	Triacs	SC03	82
BT138F series	Full-pack triacs	SC03	82
BT138X series	Full-pack triacs	sales	82
BT139 series	Triacs	SC03	82
BT139F series	Full-pack triacs	SC03	82
BT139 series H	Full-pack triacs	SC03	82
BT139X series	Full-pack triacs	sales	82
BT145 series	Thyristors	SC03	82
BT148 series	Thyristors	SC03	82
BT148W series	Thyristors	SC03	82
BT149 series	Thyristors	SC03	82
BT150	Thyristor	SC03	82
BT151 series	Thyristors	SC03	82
BT151F series	Full-pack thyristors	SC03	82

Alphanumeric index

type number	description	hand book	page 4–
BT151X series	Thyristors	sales	82
BT152 series	Thyristors	SC03	82
BT169 series	Thyristors	SC03	82
BTA140 series	Triacs	SC03	82
BTA151 series	Thyristors	SC03	82
BTA208B series	Triacs	sales	82
BTA208BX series	Triacs	sales	82
BTA212B series	Triacs	sales	82
BTA212BX series	Triacs	sales	82
BTA216B series	Triacs	sales	82
BTA216BX series	Triacs	sales	82
BTA225B series	Triacs	sales	82
BU1508AX	Silicon diffused power transistor	SC06	78
BU1508DX	Silicon diffused power transistor	SC06	78
BU1706A	Silicon diffused power transistor	SC06	78
BU1706AX	Silicon diffused power transistor	sales	78
BU2506DF	Silicon diffused power transistor	SC06	77
BU2506DX	Silicon diffused power transistor	SC06	77
BU2508A	Silicon diffused power transistor	SC06	78
BU2508AF	Silicon diffused power transistor	SC06	78
BU2508AX	Silicon diffused power transistor	SC06	78
BU2508D	Silicon diffused power transistor	SC06	78
BU2508DF	Silicon diffused power transistor	SC06	78
BU2508DX	Silicon diffused power transistor	SC06	78
BU2520A	Silicon diffused power transistor	SC06	78
BU2520AF	Silicon diffused power transistor	SC06	78
BU2520AX	Silicon diffused power transistor	SC06	78
BU2520D	Silicon diffused power transistor	SC06	78
BU2520DF	Silicon diffused power transistor	SC06	78
BU2520DX	Silicon diffused power transistor	SC06	78
BU2522AF	Silicon diffused power transistor	SC06	78
BU2522AX	Silicon diffused power transistor	SC06	78
BU2525A	Silicon diffused power transistor	SC06	78
BU2525AF	Silicon diffused power transistor	SC06	78
BU2525AX	Silicon diffused power transistor	SC06	78
BU2527AF	Silicon diffused power transistor	SC06	78
BU2527AX	Silicon diffused power transistor	SC06	78
BU2530AL	Silicon diffused power transistor	sales	78
BU2708AF	Silicon diffused power transistor	DS-SC06	78
BU2708DF	Silicon diffused power transistor	DS-SC06	78
BU2720AF	Silicon diffused power transistor	DS-IC06	78
BU2720DF	Silicon diffused power transistor	DS-IC06	78
BU2722AF	Silicon diffused power transistor	DS-IC06	78
BU2727A	Silicon diffused power transistor	DS-IC06	78
BU2727AF	Silicon diffused power transistor	DS-IC06	78
BU505	Silicon diffused power transistor	SC06	77
BU505D	Silicon diffused power transistor	SC06	77
BU505DF	Silicon diffused power transistor	SC06	77
BU505F	Silicon diffused power transistor	sales	77
BU506	Silicon diffused power transistor	SC06	77
BU506D	Silicon diffused power transistor	SC06	77
BU506DF	Silicon diffused power transistor	SC06	77
BU508A	Silicon diffused power transistor	SC06	77
BU508AF	Silicon diffused power transistor	SC06	77
BU508D	Silicon diffused power transistor	SC06	77
BU508DF	Silicon diffused power transistor	SC06	77

Alphanumeric index

type number	description	hand book	page 4–
BU706DF	Silicon diffused power transistor	SC06	77
BUK100-50DL	PowerMOS transistor Logic level TOPFET	SC13	73
BUK100-50GL	PowerMOS transistor Logic level TOPFET	SC13	73
BUK101-50GS	PowerMOS transistor TOPFET	SC13	73
BUK102-50DL	PowerMOS transistor Logic level TOPFET	SC13	73
BUK102-50GL	PowerMOS transistor Logic level TOPFET	SC13	73
BUK102-50GS	PowerMOS transistor TOPFET	SC13	73
BUK104-50L	PowerMOS transistor Logic level TOPFET	SC13	73
BUK104-50LP	PowerMOS transistor Logic level TOPFET	SC13	73
BUK104-50S	PowerMOS transistor Logic level TOPFET	SC13	73
BUK105-50L	PowerMOS transistor Logic level TOPFET	SC13	73
BUK105-50LP	PowerMOS transistor Logic level TOPFET	SC13	73
BUK105-50S	PowerMOS transistor Logic level TOPFET	SC13	73
BUK105-50SP	PowerMOS transistor Logic level TOPFET	SC13	73
BUK106-50L	PowerMOS transistor Logic level TOPFET	SC13	73
BUK106-50LP	PowerMOS transistor Logic level TOPFET	SC13	73
BUK106-50S	PowerMOS transistor Logic level TOPFET	SC13	73
BUK106-50SP	PowerMOS transistor Logic level TOPFET	SC13	73
BUK200-50X	PowerMos transistor TOPFET high side switch	DS-SC13	73
BUK200-50Y	PowerMos transistor TOPFET high side switch	DS-SC13	73
BUK202-50X	PowerMos transistor TOPFET high side switch	DS-SC13	73
BUK202-50Y	PowerMos transistor TOPFET high side switch	DS-SC13	73
BUK203-50X	PowerMos transistor TOPFET high side switch	DS-SC13	73
BUK203-50Y	PowerMos transistor TOPFET high side switch	DS-SC13	73
BUK436-100A	PowerMOS transistor MOSFET N	sales	74
BUK436-100B	PowerMOS transistor MOSFET N	sales	74
BUK436-200A	PowerMOS transistor MOSFET N	sales	75
BUK436-200B	PowerMOS transistor MOSFET N	sales	75
BUK436-60A	PowerMOS transistor MOSFET N	sales	73
BUK436-60B	PowerMOS transistor MOSFET N	sales	73
BUK438-800A	PowerMOS transistor MOSFET N	sales	75
BUK438-800B	PowerMOS transistor MOSFET N	sales	75
BUK441-100A	PowerMOS transistor MOSFET N	sales	74
BUK441-100B	PowerMOS transistor MOSFET N	sales	75
BUK442-100A	PowerMOS transistor MOSFET N	SC13	74
BUK442-100B	PowerMOS transistor MOSFET N	SC13	74
BUK443-100A	PowerMOS transistor MOSFET N	SC13	74
BUK443-100B	PowerMOS transistor MOSFET N	SC13	74
BUK443-60A	PowerMOS transistor MOSFET N	SC13	73
BUK443-60B	PowerMOS transistor MOSFET N	SC13	74
BUK444-200A	PowerMOS transistor MOSFET N	SC13	75
BUK444-200B	PowerMOS transistor MOSFET N	SC13	75
BUK444-400B	PowerMOS transistor MOSFET N	SC13	75
BUK444-500B	PowerMOS transistor MOSFET N	SC13	75
BUK444-600B	PowerMOS transistor MOSFET N	SC13	75
BUK444-800A	PowerMOS transistor MOSFET N	SC13	75
BUK444-800B	PowerMOS transistor MOSFET N	SC13	75
BUK445-100A	PowerMOS transistor MOSFET N	SC13	75
BUK445-100B	PowerMOS transistor MOSFET N	SC13	74
BUK445-200A	PowerMOS transistor MOSFET N	SC13	74
BUK445-200B	PowerMOS transistor MOSFET N	SC13	75
BUK445-400B	PowerMOS transistor MOSFET N	SC13	75
BUK445-500B	PowerMOS transistor MOSFET N	SC13	75
BUK445-600B	PowerMOS transistor MOSFET N	SC13	75
BUK445-60A	PowerMOS transistor MOSFET N	SC13	75
BUK445-60B	PowerMOS transistor MOSFET N	SC13	73

Alphanumeric index

type number	description	hand book	page 4–
BUK446-1000B	PowerMOS transistor MOSFET N	SC13	75
BUK446-800A	PowerMOS transistor MOSFET N	SC13	75
BUK446-800B	PowerMOS transistor MOSFET N	SC13	75
BUK452-60A	PowerMOS transistor MOSFET N	SC13	74
BUK452-60B	PowerMOS transistor MOSFET N	SC13	74
BUK453-100A	PowerMOS transistor MOSFET N	SC13	74
BUK453-100B	PowerMOS transistor MOSFET N	SC13	74
BUK453-60A	PowerMOS transistor MOSFET N	SC13	73
BUK453-60B	PowerMOS transistor MOSFET N	SC13	73
BUK454-200A	PowerMOS transistor MOSFET N	SC13	75
BUK454-200B	PowerMOS transistor MOSFET N	SC13	75
BUK454-400B	PowerMOS transistor MOSFET N	SC13	75
BUK454-500B	PowerMOS transistor MOSFET N	SC13	75
BUK454-600B	PowerMOS transistor MOSFET N	SC13	75
BUK454-800A	PowerMOS transistor MOSFET N	SC13	75
BUK454-800B	PowerMOS transistor MOSFET N	SC13	75
BUK455-100A	PowerMOS transistor MOSFET N	SC13	74
BUK455-100B	PowerMOS transistor MOSFET N	SC13	74
BUK455-200A	PowerMOS transistor MOSFET N	SC13	75
BUK455-200B	PowerMOS transistor MOSFET N	SC13	75
BUK455-400B	PowerMOS transistor MOSFET N	SC13	75
BUK455-500B	PowerMOS transistor MOSFET N	SC13	75
BUK455-600B	PowerMOS transistor MOSFET N	SC13	75
BUK455-60A	PowerMOS transistor MOSFET N	SC13	73
BUK455-60B	PowerMOS transistor MOSFET N	SC13	73
BUK456-1000B	PowerMOS transistor MOSFET N	SC13	75
BUK456-100A	PowerMOS transistor MOSFET N	SC13	74
BUK456-100B	PowerMOS transistor MOSFET N	SC13	74
BUK456-200A	PowerMOS transistor MOSFET N	SC13	75
BUK456-200B	PowerMOS transistor MOSFET N	SC13	75
BUK456-60A	PowerMOS transistor MOSFET N	SC13	73
BUK456-60B	PowerMOS transistor MOSFET N	SC13	73
BUK456-60H	PowerMOS transistor MOSFET N	SC13	73
BUK456-800A	PowerMOS transistor MOSFET N	SC13	75
BUK456-800B	PowerMOS transistor MOSFET N	SC13	75
BUK457-400B	PowerMOS transistor MOSFET N	SC13	75
BUK457-500B	PowerMOS transistor MOSFET N	SC13	75
BUK457-600B	PowerMOS transistor MOSFET N	SC13	75
BUK462-100A	PowerMOS transistor MOSFET N	sales	74
BUK462-60A	PowerMOS transistor MOSFET N	sales	74
BUK463-100A	PowerMOS transistor MOSFET N	sales	74
BUK463-60A	PowerMOS transistor MOSFET N	sales	73
BUK465-100A	PowerMOS transistor MOSFET N	sales	74
BUK465-200A	PowerMOS transistor MOSFET N	sales	75
BUK465-60A	PowerMOS transistor MOSFET N	sales	73
BUK465-60H	PowerMOS transistor MOSFET N	sales	73
BUK466-100A	PowerMOS transistor MOSFET N	sales	74
BUK466-60A	PowerMOS transistor MOSFET N	sales	73
BUK466-60H	PowerMOS transistor MOSFET N	sales	73
BUK481-100A	PowerMOS transistor MOSFET N	SC13	74
BUK481-60A	PowerMOS transistor MOSFET N	SC13	74
BUK482-100A	PowerMOS transistor MOSFET N	SC13	74
BUK482-60A	PowerMOS transistor MOSFET N	SC13	74
BUK483-60A	PowerMOS transistor MOSFET N	SC13	74
BUK541-100A	PowerMOS transistor Logic level FET	sales	74
BUK542-100A	PowerMOS transistor Logic level FET	SC13	74

type number	description	hand book	page 4–
BUK542-100B	PowerMOS transistor Logic level FET	SC13	74
BUK542-60A	PowerMOS transistor Logic level FET	SC13	74
BUK542-60B	PowerMOS transistor Logic level FET	SC13	74
BUK543-100A	PowerMOS transistor Logic level FET	SC13	74
BUK543-100B	PowerMOS transistor Logic level FET	SC13	74
BUK543-60A	PowerMOS transistor Logic level FET	SC13	73
BUK543-60B	PowerMOS transistor Logic level FET	SC13	73
BUK545-100A	PowerMOS transistor Logic level FET	SC13	74
BUK545-100B	PowerMOS transistor Logic level FET	SC13	74
BUK545-200A	PowerMOS transistor Logic level FET	SC13	75
BUK545-200B	PowerMOS transistor Logic level FET	SC13	75
BUK551-100A	PowerMOS transistor Logic level FET	sales	74
BUK552-100A	PowerMOS transistor Logic level FET	SC13	74
BUK552-100B	PowerMOS transistor Logic level FET	SC13	74
BUK552-60A	PowerMOS transistor Logic level FET	SC13	74
BUK552-60B	PowerMOS transistor Logic level FET	SC13	74
BUK553-100A	PowerMOS transistor Logic level FET	SC13	74
BUK553-100B	PowerMOS transistor Logic level FET	SC13	74
BUK553-60A	PowerMOS transistor Logic level FET	SC13	73
BUK553-60B	PowerMOS transistor Logic level FET	SC13	73
BUK554-200A	PowerMOS transistor Logic level FET	SC13	75
BUK554-200B	PowerMOS transistor Logic level FET	SC13	75
BUK555-100A	PowerMOS transistor Logic level FET	SC13	74
BUK555-100B	PowerMOS transistor Logic level FET	SC13	74
BUK555-200A	PowerMOS transistor Logic level FET	SC13	75
BUK555-200B	PowerMOS transistor Logic level FET	SC13	75
BUK555-60A	PowerMOS transistor Logic level FET	SC13	73
BUK555-60B	PowerMOS transistor Logic level FET	SC13	73
BUK556-60A	PowerMOS transistor Logic level FET	SC13	73
BUK556-60H	PowerMOS transistor Logic level FET	SC13	73
BUK562-100A	PowerMOS transistor Logic level FET	sales	74
BUK562-60A	PowerMOS transistor Logic level FET	sales	74
BUK563-100A	PowerMOS transistor Logic level FET	sales	74
BUK563-60A	PowerMOS transistor Logic level FET	sales	73
BUK565-100A	PowerMOS transistor Logic level FET	sales	74
BUK565-200A	PowerMOS transistor Logic level FET	sales	75
BUK565-60A	PowerMOS transistor Logic level FET	sales	73
BUK565-60H	PowerMOS transistor Logic level FET	sales	73
BUK566-60A	PowerMOS transistor Logic level FET	sales	73
BUK566-60H	PowerMOS transistor Logic level FET	sales	73
BUK581-100A	PowerMOS transistor Logic level FET	SC13	75
BUK581-60A	PowerMOS transistor Logic level FET	SC13	74
BUK582-100A	PowerMOS transistor Logic level FET	SC13	74
BUK582-60A	PowerMOS transistor Logic level FET	SC13	74
BUK583-60A	PowerMOS transistor Logic level FET	SC13	74
BUK854-500IS	Insulated Gate Bipolar Transistor (IGBT)	SC13	76
BUK854-800A	Insulated Gate Bipolar Transistor (IGBT)	SC13	76
BUK856-400IZ	Insulated Gate Bipolar Transistor protected Logic level IGBT	SC13	76
BUK856-450IX	Insulated Gate Bipolar Transistor protected IGBT	SC13	76
BUK856-800A	Insulated Gate Bipolar Transistor (IGBT)	SC13	76
BUT11	Silicon diffused power transistor	SC06	77
BUT11A	Silicon diffused power transistor	SC06	77
BUT11AF	Silicon diffused power transistor	SC06	77
BUT11AX	Silicon diffused power transistor	SC06	77
BUT11F	Silicon diffused power transistor	SC06	77
BUT12	Silicon diffused power transistor	SC06	77

Alphanumeric index

type number	description	hand book	page 4–
BUT12A	Silicon diffused power transistor	SC06	77
BUT12AF	Silicon diffused power transistor	SC06	77
BUT12F	Silicon diffused power transistor	SC06	77
BUT18	Silicon diffused power transistor	SC06	77
BUT18A	Silicon diffused power transistor	SC06	77
BUT18AF	Silicon diffused power transistor	SC06	77
BUT211	Silicon diffused power transistor	SC06	77
BUT211X	Silicon diffused power transistor	sales	77
BUW11	Silicon diffused power transistor	SC06	77
BUW11A	Silicon diffused power transistor	SC06	77
BUW11AF	Silicon diffused power transistor	SC06	77
BUW12F	Silicon diffused power transistor	SC06	77
BUW13	Silicon diffused power transistor	SC06	77
BUW13A	Silicon diffused power transistor	SC06	77
BUW13AF	Silicon diffused power transistor	SC06	77
BUW13F	Silicon diffused power transistor	SC06	77
BUW14	Silicon diffused power transistor	SC06	77
BUW84	Silicon diffused power transistor	SC06	77
BUW85	Silicon diffused power transistor	SC06	77
BUX84	Silicon diffused power transistor	SC06	77
BUX84F	Silicon diffused power transistor	SC06	77
BUX85	Silicon diffused power transistor	SC06	77
BUX85F	Silicon diffused power transistor	SC06	77
BUX86P	Silicon diffused power transistor	DS-SC06	77
BUX87P	Silicon diffused power transistor	DS-SC06	77
BY228	Deflection rectifier	SC01	61
BY229 series	Rectifier diodes fast, soft-recovery	SC02	79
BY229F series	Rectifier diodes fast, soft-recovery	SC02	79
BY229X series	Rectifier diodes fast	sales	79
BY328	Deflection rectifier	SC01	61
BY329 series	Rectifier diodes fast, soft-recovery	SC02	79
BY329X series	Rectifier diodes fast	sales	79
BY359-1500	Rectifier diode fast, high-voltage	SC02	79
BY359F-1500	Rectifier diode fast, high-voltage	SC02	79
BY359X-1500	Rcetifier diode fast, high-voltage	SC02	79
BY428	Deflection rectifier	SC01	61
BY438	Deflection rectifier	SC01	61
BY448	Deflection rectifier	SC01	61
BY458	Deflection rectifier	SC01	61
BY459-1500	Rectifier diode fast, high-voltage	SC01	79
BY459F-1500	Rectifier diode fast, high-voltage	SC01	79
BY459X-1500	Rectifier diode fast, high-voltage	SC01	79
BY479X-1700	Rectifier diode fast	sales	79
BY527	Controlled avalanche rectifier	SC01	62
BY8004	High-voltage soft-rec. controlled avalanche fast rectifier	SC01	71, 72
BY8006	High-voltage soft-rec. controlled avalanche fast rectifier	SC01	71, 72
BY8008	High-voltage soft-rec. controlled avalanche fast rectifier	SC01	71, 72
BY8010	High-voltage soft-rec. controlled avalanche fast rectifier	SC01	71, 72
BY8012	High-voltage soft-rec. controlled avalanche fast rectifier	SC01	71, 72
BY8014	High-voltage soft-rec. controlled avalanche fast rectifier	SC01	71, 72
BY8016	High-voltage soft-rec. controlled avalanche fast rectifier	SC01	71, 72
BY8104	High-voltage soft-rec. controlled avalanche very fast rect.	SC01	71, 72
BY8106	High-voltage soft-rec. controlled avalanche very fast rect.	SC01	71, 72
BY8108	High-voltage soft-rec. controlled avalanche very fast rect.	SC01	71, 72
BY8110	High-voltage soft-rec. controlled avalanche very fast rect.	SC01	71, 72
BY8112	High-voltage soft-rec. controlled avalanche very fast rect.	SC01	71, 72

type number	description	hand book	page 4–
BY8114	High-voltage soft-rec. controlled avalanche very fast rect.	SC01	71, 72
BY8116	High-voltage soft-rec. controlled avalanche very fast rect.	SC01	71, 72
BY8404	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8406	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8408	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8410	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8412	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8414	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8416	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8418	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8420	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8424	High-voltage soft-recovery fast rectifier	SC01	71, 72
BY8504	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8506	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8508	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8510	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8512	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8514	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8516	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8518	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8520	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BY8524	High-voltage soft-recovery very fast rectifier	SC01	71, 72
BYD11D	Controlled avalanche rectifier	SC01	62
BYD11G	Controlled avalanche rectifier	SC01	62
BYD11J	Controlled avalanche rectifier	SC01	62
BYD11K	Controlled avalanche rectifier	SC01	62
BYD11M	Controlled avalanche rectifier	SC01	62
BYD13D	Controlled avalanche rectifier	SC01	62
BYD13G	Controlled avalanche rectifier	SC01	62
BYD13J	Controlled avalanche rectifier	SC01	62
BYD13K	Controlled avalanche rectifier	SC01	62
BYD13M	Controlled avalanche rectifier	SC01	62
BYD17D	Controlled avalanche rectifier	SC01	62, 63
BYD17G	Controlled avalanche rectifier	SC01	62, 63
BYD17J	Controlled avalanche rectifier	SC01	62, 63
BYD17K	Controlled avalanche rectifier	SC01	62, 63
BYD17M	Controlled avalanche rectifier	SC01	62, 63
BYD31D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD31G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD31J	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD31K	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD31M	Fast soft-recovery controlled avalanche rectifier	SC01	64
BYD33D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD33G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD33J	Fast soft recovery controlled avalanche rectifier	SC01	64, 65
BYD33K	Fast soft recovery controlled avalanche rectifier	SC01	64, 65
BYD33M	Fast soft recovery controlled avalanche rectifier	SC01	64, 65
BYD33U	Fast soft recovery controlled avalanche rectifier	SC01	64, 65
BYD33V	Fast soft recovery controlled avalanche rectifier	SC01	64, 65
BYD37D	Fast soft-recovery controlled avalanche rectifier	SC01	64
BYD37G	Fast soft-recovery controlled avalanche rectifier	SC01	64
BYD37J	Fast soft-recovery controlled avalanche rectifier	SC01	64
BYD37K	Fast soft-recovery controlled avalanche rectifier	SC01	64
BYD37M	Fast soft-recovery controlled avalanche rectifier	SC01	64
BYD43U	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD43V	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
BYD43-16	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD43-18	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD43-20	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD47-16	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD47-18	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD47-20	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD53U	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD53V	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYD57D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD57G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD57J	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD57K	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD57M	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYD71A	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD71B	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD71C	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD71D	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD71E	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD71F	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD71G	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD73A	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD73B	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD73C	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD73D	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD73E	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD73F	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD73G	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYD77A	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYD77B	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYD77C	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYD77D	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYD77E	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYD77F	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYD77G	ULtra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG50D	Controlled avalanche rectifier	SC01	62, 63
BYG50G	Controlled avalanche rectifier	SC01	62, 63
BYG50J	Controlled avalanche rectifier	SC01	62, 63
BYG50K	Controlled avalanche rectifier	SC01	62, 63
BYG50M	Controlled avalanche rectifier	SC01	62, 63
BYG60D	Fast soft-recovery controlled avalanche rectifier	SC01	66
BYG60G	Fast soft-recovery controlled avalanche rectifier	SC01	66
BYG60J	Fast soft-recovery controlled avalanche rectifier	SC01	66
BYG60K	Fast soft-recovery controlled avalanche rectifier	SC01	66
BYG60M	Fast soft-recovery controlled avalanche rectifier	SC01	66
BYG70D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYG70G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYG70J	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYG80A	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG80B	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG80C	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG80D	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG80E	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG80F	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG80G	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG80J	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYG90-20	Schottky barrier rectifier diode	SC01	69

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
BYG90-30	Schottky barrier rectifier diode	SC01	69
BYG90-40	Schottky barrier rectifier diode	SC01	69
BYG90-90	Schottky barrier rectifier diode	SC01	69
BYM26A	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM26B	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM26C	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM26D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM26E	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM26F	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM26G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM36A	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM36B	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM36C	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM36D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM36E	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM36F	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM36G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYM56A	Controlled avalanche rectifier	SC01	62
BYM56B	Controlled avalanche rectifier	SC01	62
BYM56C	Controlled avalanche rectifier	SC01	62
BYM56D	Controlled avalanche rectifier	SC01	62
BYM56E	Controlled avalanche rectifier	SC01	62
BYM99	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYQ28 series	Rectifier diodes ultrafast	SC02	80
BYQ28E series	Rectifier diodes ultrafast, rugged	sales	80
BYQ28EB series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYQ28EX series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYQ28F series	Rectifier diodes ultrafast	SC02	80
BYQ28X series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYR29 series	Rectifier diodes ultrafast	SC02	80
BYR29F series	Rectifier diodes ultrafast	SC02	80
BYT28 series	Dual rectifier diodes ultrafast	SC02	80
BYT79 series	Rectifier diodes ultrafast	SC02	81
BYV10-20	Schottky barrier diode	SC01	69
BYV10-30	Schottky barrier diode	SC01	69
BYV10-40	Schottky barrier diode	SC01	69
BYV118 series	Rectifier diodes schottky barrier	SC02	79
BYV118F series	Rectifier diodes schottky barrier	SC02	79
BYV133 series	Rectifier diodes schottky barrier	SC02	80
BYV133F series	Rectifier diodes schottky barrier	SC02	80
BYV143 series	Rectifier diodes schottky barrier	SC02	80
BYV143B series	Rectifier diodes schottky barrier	sales	80
BYV143F series	Rectifier diodes schottky barrier	SC02	80
BYV26A	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV26B	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV26C	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV26D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV26E	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV26F	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV26G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV27-100	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV27-150	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV27-200	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV27-300	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV27-400	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV27-50	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68

Alphanumeric index

type number	description	hand book	page 4–
BYV28-100	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV28-150	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV28-200	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV28-300	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYV28-400	Ultra fast low-loss controlled avalanche rectifier	SC01	67
BYV28-50	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYV29 series	Rectifier diodes ultrafast	SC02	80
BYV29F series	Rectifier diodes ultrafast	SC02	80
BYV32 series	Rectifier diodes ultrafast	SC02	80
BYV32E series	Rectifier diodes ultrafast, rugged	sales	80
BYV32EB series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYV32EX series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYV32F series	Rectifier diodes ultrafast	SC02	80
BYV34 series	Dual rectifier diodes ultrafast	SC02	80
BYV36A	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV36B	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV36C	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV36D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV36E	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV36F	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV36G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 65
BYV40 series	Rectifier diodes ultrafast	sales	80
BYV40E series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYV42 series	Rectifier diodes ultrafast	SC02	80
BYV42E series	Rectifier diodes ultrafast, rugged	sales	80
BYV42EB series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYV42EX series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYV42F series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYV44 series	Dual rectifier diodes ultrafast	SC02	80
BYV72 series	Rectifier diodes ultrafast	SC02	80
BYV72E series	Rectifier diodes ultrafast, rugged	sales	80
BYV72F series	Rectifier diodes ultrafast	SC02	80
BYV74 series	Dual rectifier diodes ultrafast	SC02	80
BYV74F series	Dual rectifier diodes ultrafast	SC02	80
BYV79 series	Rectifier diodes ultrafast	SC02	81
BYV79E series	Rectifier diodes ultrafast, rugged	sales	81
BYV79EB series	Rectifier (epitaxial) diodes ultrafast	sales	81
BYV95A	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV95B	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV95C	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV96D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV96E	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV97F	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV97G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV98	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYV99	Ultra fast low-loss controlled avalanche rectifier	SC01	67, 68
BYW29 series	Rectifier diodes ultrafast	SC02	80
BYW29E series	Rectifier diodes ultrafast, rugged	sales	80
BYW29EB series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYW29EX series	Rectifier (epitaxial) diodes ultrafast	sales	80
BYW29F series	Rectifier diodes ultrafast	SC02	80
BYW54	Controlled avalanche rectifier	SC01	62
BYW55	Controlled avalanche rectifier	SC01	62
BYW56	Controlled avalanche rectifier	SC01	62
BYW95A	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYW95B	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66

Alphanumeric index

type number	description	hand book	page 4–
BYW95C	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYW96D	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYW96E	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYW97F	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYW97G	Fast soft-recovery controlled avalanche rectifier	SC01	64, 66
BYX100G	High-voltage soft-recovery controlled avalanche rectifier	SC01	71, 72
BYX120G	High-voltage soft-recovery controlled avalanche rectifier	SC01	71, 72
BYX130G	High-voltage soft-recovery controlled avalanche rectifier	sales	71, 72
BYX90G	High-voltage soft-recovery controlled avalanche rectifier	SC01	71, 72
BZA100	18-Fold ESD transient-voltage suppressor	SC01	59
BZD23 series	Voltage regulator diodes	SC01	70
BZD27 series	Voltage regulator diodes	SC01	70
BZG03 series	Voltage regulator diodes	SC01	70
BZG04 series	Transient-voltage suppressor diodes	SC01	70
BZT03 series	Voltage regulator diodes	SC01	70
BZV10	Voltage reference diode	SC01	59
BZV11	Voltage reference diode	SC01	59
BZV12	Voltage reference diode	SC01	59
BZV13	Voltage reference diode	SC01	59
BZV14	Voltage reference diode	SC01	59
BZV37	Symmetrical voltage regulator diode	SC01	57
BZV49 series	Voltage regulator diodes	SC01	57
BZV49C series	Voltage regulator diodes	SC01	57
BZV55 series	Voltage regulator diodes	SC01	57
BZV55B series	Voltage regulator diodes	SC01	57
BZV55C series	Voltage regulator diodes	SC01	57
BZV55F series	Voltage reulator diodes	SC01	57
BZV80	Voltage reference diode	SC01	59
BZV81	Voltage reference diode	SC01	59
BZV85 series	Voltage regulator diodes	SC01	57
BZV85C series	Voltage regulator diodes	SC01	57
BZV86-1V4	Low-voltage stabistor	SC01	56
BZV86-2V0	Low-voltage stabistor	SC01	56
BZV86-2V6	Low-voltage stabistor	SC01	56
BZV86-3V2	Low-voltage stabistor	SC01	56
BZV87-1V4	Low-voltage stabistor	SC01	56
BZV87-2V0	Low-voltage stabistor	SC01	56
BZV87-2V6	Low-voltage stabistor	SC01	56
BZV87-3V2	Low-voltage stabistor	SC01	56
BZV90 series	Voltage regulator diodes	SC01	57
BZV90C series	Voltage regulator diodes	SC01	57
BZW03 series	Voltage regulator diodes	SC01	70
BZX284 series	Voltage regulator diodes	SC01	57
BZX284B series	Voltage regulator diodes	SC01	57
BZX284C series	Voltage regulator diodes	SC01	57
BZX55 series	Voltage regulator diodes	SC01	57
BZX55C series	Voltage regulator diodes	SC01	57
BZX79 series	Voltage regulator diodes	SC01	57
BZX79A series	Voltage regulator diodes	SC01	57
BZX79B series	Voltage regulator diodes	SC01	57
BZX79C series	Voltage regulator diodes	SC01	57
BZX79F series	Voltage regulator diodes	SC01	57
BZX84 series	Silicon planar voltage regulator diodes	SC01	57
BZX84A series	Silicon planar voltage regulator diodes	SC01	57
BZX84B series	Silicon planar voltage regulator diodes	SC01	57
BZX84C series	Silicon planar voltage regulator diodes	SC01	57

Alphanumeric index

type number	description	hand book	page 4–
CR2424S	Video driver hybrid amplifier	sales	114
CR2427S	Video driver hybrid amplifier	sales	114
CR3424	Video driver hybrid amplifier	SC14	114
CR3427	Video driver hybrid amplifier	SC14	114
CR4424	Video driver hybrid amplifier	SC14	114
CR4427	Video driver hybrid amplifier	SC14	114
CR5527S	Video driver hybrid amplifier	sales	114
CR5627	Video driver hybrid amplifier	sales	114
CR6627	Video driver hybrid amplifier	sales	114
CR6727	Video driver hybrid amplifier	sales	114
CR6927	Triple video driver hybrid amplifier	sales	114
J108	N-channel junction FET	SC07	38, 39
J109	N-channel junction FET	SC07	38, 39
J110	N-channel junction FET	SC07	38, 39
J111	N-channel silicon field-effect transistor	SC07	38, 39
J112	N-channel silicon field-effect transistor	SC07	38, 39
J113	N-channel silicon field-effect transistor	SC07	38, 39
J174	P-channel silicon field-effect transistor	SC07	38, 40
J175	P-channel silicon field-effect transistor	SC07	38, 40
J176	P-channel silicon field-effect transistor	SC07	38, 40
J177	P-channel silicon field-effect transistor	SC07	38, 40
J308	N-channel silicon field-effect transistor	SC07	35, 36
J309	N-channel silicon field-effect transistor	SC07	35, 36
J310	N-channel silicon field-effect transistor	SC07	35, 36
JA100	PNP small-signal transistor	SC04	6, 11
JA101	PNP small-signal transistor	SC04	6, 11
JC327	Silicon planar epitaxial transistor	SC04	6, 11
JC327A	Silicon planar epitaxial transistor	SC04	11
JC328	Silicon planar epitaxial transistor	SC04	6, 11
JC337	Silicon planar epitaxial transistor	SC04	5, 8
JC337A	Silicon planar epitaxial transistor	SC04	8
JC338	Silicon planar epitaxial transistor	SC04	5, 8
JC500	NPN small-signal transistor	SC04	5, 8
JC501	NPN small-signal transistor	SC04	5, 8
JC546	Silicon planar epitaxial transistor	SC04	5, 8
JC547	Silicon planar epitaxial transistor	SC04	5, 8
JC548	Silicon planar epitaxial transistor	SC04	5, 8
JC549	Silicon planar epitaxial transistor	SC04	18
JC550	Silicon planar epitaxial transistor	SC04	18
JC556	Silicon planar epitaxial transistor	SC04	6, 11
JC557	Silicon planar epitaxial transistor	SC04	6, 11
JC558	Silicon planar epitaxial transistor	SC04	6, 11
JC559	Silicon planar epitaxial transistor	SC04	18
JC560	Silicon planar epitaxial transistor	SC04	18
JF494	Silicon planar epitaxial transistor	SC04	19, 20
LAE4001R	Microwave linear power transistor	SC15	108
LAE4002S	Microwave linear power transistor	SC15	108
LBE2003S	Microwave linear power transistor	SC15	108
LBE2009S	Microwave linear power transistor	SC15	108
LCE2009S	Microwave linear power transistor	SC15	108
LEE1015TA	NPN silicon planar epitaxial microwave power transistor	SC15	108
LFE15600X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LFE18500X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE15180X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE15370X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE16045X	NPN silicon planar epitaxial microwave power transistor	SC15	109

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
LLE16120X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE16350X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE18010X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE18040X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE18100X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE18150X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LLE18300X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LTE21009R	Microwave linear power transistor	SC15	108
LTE21015R	NPN silicon planar epitaxial microwave power transistor	SC15	108
LTE21025R	Microwave linear power transistor	SC15	108
LTE42005S	Microwave linear power transistor	SC15	108
LTE42008R	Microwave linear power transistor	SC15	108
LTE42012R	Microwave linear power transistor	SC15	108
LV1721E50R	Microwave linear power transistor	SC15	108
LV2024E45R	Microwave linear power transistor	SC15	108
LVE21050R	Microwave linear power transistor	SC15	108
LWE2010S	NPN silicon planar epitaxial microwave power transistor	SC15	108
LWE2015R	Microwave linear power transistor	SC15	108
LX1214E500X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LXE15450X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LXE16350X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LXE18300X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LXE18400X	NPN silicon planar epitaxial microwave power transistor	SC15	109
LZ1418E100R	Microwave linear power transistor	SC15	108
MF1011B900Y	NPN silicon planar epitaxial microwave power transistor	SC15	111
MPS3702	Silicon planar epitaxial transistor	SC04	6, 11
MPS3703	Silicon planar epitaxial transistor	SC04	6, 11
MPS3704	Silicon planar epitaxial transistor	SC04	5, 8
MPS3705	Silicon planar epitaxial transistor	SC04	5, 8
MPS3706	Silicon planar epitaxial transistor	SC04	5, 8
MPS3904	Silicon planar epitaxial transistor	SC04	5, 8, 23
MPS3906	Silicon planar epitaxial transistor	SC04	6, 11, 24
MPS6513	Silicon planar epitaxial transistor	SC04	5, 8
MPS6514	Silicon planar epitaxial transistor	SC04	5, 8
MPS6515	Silicon planar epitaxial transistor	SC04	5, 8
MPS6517	Silicon planar epitaxial transistor	SC04	6, 11
MPS6519	Silicon planar epitaxial transistor	SC04	6, 11
MPS6520	Silicon planar epitaxial transistor	SC04	5, 8
MPS6521	Silicon planar epitaxial transistor	SC04	5, 8
MPS6522	Silicon planar epitaxial transistor	SC04	6, 11
MPS6523	Silicon planar epitaxial transistor	SC04	6, 11
MPS6531	Silicon planar epitaxial transistor	SC04	5, 8
MPS6532	Silicon planar epitaxial transistor	SC04	5, 8
MPS6534	Silicon planar epitaxial transistor	SC04	6, 11
MPS6535	Silicon planar epitaxial transistor	SC04	6, 11
MPS8098	Silicon planar epitaxial transistor	sales	8
MPS8598	Silicon planar epitaxial transistor	sales	11
MPSA05	Silicon planar epitaxial transistor	SC04	5, 8
MPSA06	Silicon planar epitaxial transistor	SC04	5, 8
MPSA13	Silicon planar epitaxial Darlington transistor	SC04	5, 14
MPSA14	Silicon planar epitaxial Darlington transistor	SC04	5, 14
MPSA25	NPN Darlington transistor	SC04	5, 23
MPSA26	NPN Darlington transistor	SC04	23
MPSA27	NPN Darlington transistor	SC04	23
MPSA42	High-voltage silicon planar transistor	SC04	23, 28, 29
MPSA43	High-voltage silicon planar transistor	SC04	23, 28, 29

DISCRETE SEMICONDUCTORS

Alphanumeric index

type number	description	hand book	page 4–
MPSA44	NPN high-voltage transistor	SC04	29
MPSA45	NPN high-voltage transistor	SC04	29
MPSA55	Silicon planar epitaxial transistor	SC04	6, 11
MPSA56	Silicon planar epitaxial transistor	SC04	6, 11
MPSA63	PNP Darlington transistor	SC04	6, 11, 24
MPSA64	PNP Darlington transistor	SC04	6, 11, 24
MPSA76	PNP Darlington transistor	SC04	6, 11, 24
MPSA77	PNP Darlington transistor	SC04	6, 11, 24
MPSA92	High-voltage silicon planar transistor	SC04	24, 28, 29
MPSA93	High-voltage silicon planar transistor	SC04	24, 28, 29
MPSH10	NPN 1 GHz general purpose switching transistor	SC14	95
MTB10010U	NPN silicon planar epitaxial microwave power transistor	SC15	111
MX0912B250Y	NPN silicon planar epitaxial microwave power transistor	SC15	111
MX0912B350Y	NPN silicon planar epitaxial microwave power transistor	SC15	111
MX1011B200Y	NPN silicon planar epitaxial microwave power transistor	SC15	111
MX1011B430W	NPN silicon planar epitaxial microwave power transistor	sales	111
MX1011B700Y	NPN silicon planar epitaxial microwave power transistor	SC15	111
MZ0912B100Y	NPN silicon planar epitaxial microwave power transistor	SC15	111
MZ0912B50Y	NPN silicon planar epitaxial microwave power transistor	SC15	111
OM2045	Hybrid integrated circuit VHF/UHF wideband amplifier	SC16	113
OM2050	Hybrid integrated circuit VHF/UHF wideband amplifier	SC16	113
OM2052	Hybrid integrated circuit VHF/UHF wideband amplifier	SC16	113
OM2060	Hybrid integrated circuit VHF/UHF wideband amplifier	SC16	113
OM2063	Hybrid integrated VHF/UHF wideband amplifier	SC16	113
OM2070	Hybrid integrated circuit VHF/UHF wideband amplifier	SC16	113
OM2070B	Hybrid integrated circuit VHF/UHF wideband amplifier	SC16	113
OM2081/87	Wideband amplifier module	sales	113
OM2082/61	Wideband amplifier module	sales	113
OM2082/87	Wideband amplifier module	sales	113
OM2083/87	Wideband amplifier module	sales	113
OM3056/20	Wideband amplifier module	sales	113
OM926/E	Wideband amplifier module	SC16	113
OM956/11	Hybrid wideband amplifier	DS-SC16	113
PBR941	NPN wideband transistor	sales	94
PBR951	NPN wideband transistor	sales	94
PBYR10100 series	Rectifier diodes schottky barrier	sales	79
PBYR1025	Rectifier diode schottky barrier	sales	79
PBYR1035B-45B	Rectifier diodes schottky barrier	sales	79
PBYR1035F-45F	Rectifier diodes schottky barrier	SC02	79
PBYR1035-45	Rectifier diodes schottky barrier	SC02	79
PBYR1525CT	Rectifier diode schottky barrier	sales	79
PBYR1535CTF-45CTF	Rectifier diodes schottky barrier	SC02	79
PBYR1535CT-45CT	Rectifier diodes schottky barrier	SC02	79
PBYR1635B-45B	Rectifier diodes schottky barrier	sales	79
PBYR1635F-45F	Rectifier diodes schottky barrier	SC02	79
PBYR1635-45	Rectifier diodes schottky barrier	SC02	79
PBYR20100CT series	Rectifier diodes schottky barrier	sales	79
PBYR20100CTB	Rectifier diode schottky barrier	sales	79
PBYR2025CT	Rectifier diode schottky barrier	sales	79
PBYR2035CTF-45CTF	Rectifier diodes schottky barrier	SC02	79
PBYR2035CT-45CT	Rectifier diodes schottky barrier	SC02	79
PBYR2100CT	Schottky barrier double diode	SC01	69
PBYR245CT	Rectifier diode schottky barrier	SC02	79
PBYR2535CTB-45CTB	Rectifier diodes schottky barrier	sales	79
PBYR2535CTF-45CTF	Rectifier diodes schottky barrier	SC02	79
PBYR2535CT-45CT	Rectifier diodes schottky barrier	SC02	79

type number	description	hand book	page 4–
PBYR30100PT series	Rectifier diodes schottky barrier	sales	79
PBYR3035PTF-45PTF	Rectifier diodes schottky barrier	SC02	79
PBYR3035PT-45PT	Rectifier diodes schottky barrier	SC02	79
PBYR635CT-45CT	Rectifier diodes schottky barrier	SC02	79
PBYR735F-45F	Rectifier diodes schottky barrier	SC02	79
PBYR735-45	Rectifier diodes schottky barrier	SC02	79
PDTA114EK	PNP digital transistor	sales	32
PDTA114ET	PNP digital transistor	SC04	32
PDTA114EU	PNP digital transistor	sales	32
PDTA114TK	PNP digital transistor	sales	32
PDTA114TT	PNP digital transistor	sales	32
PDTA114TU	PNP digital transistor	sales	32
PDTA124EK	PNP digital transistor	sales	32
PDTA124ET	PNP digital transistor	SC04	32
PDTA124EU	PNP digital transistor	sales	32
PDTA143EK	PNP digital transistor	sales	32
PDTA143ET	PNP digital transistor	SC04	32
PDTA143EU	PNP digital transistor	sales	32
PDTA144EK	PNP digital transistor	sales	32
PDTA144ET	PNP digital transistor	SC04	32
PDTA144EU	PNP digital transistor	sales	32
PDTB114ET	PNP digital transistor	SC04	32
PDTC114EK	NPN digital transistor	sales	32
PDTC114ET	NPN digital transistor	SC04	32
PDTC114EU	NPN digital transistor	sales	32
PDTC114TK	NPN digital transistor	sales	32
PDTC114TT	NPN digital transistor	sales	32
PDTC114TU	NPN digital transistor	sales	32
PDTC124EK	NPN digital transistor	sales	32
PDTC124ET	NPN digital transistor	SC04	32
PDTC124EU	NPN digital transistor	sales	32
PDTC143EK	NPN digital transistor	sales	32
PDTC143ET	NPN digital transistor	SC04	32
PDTC143EU	NPN digital transistor	sales	32
PDTC144EK	NPN digital transistor	sales	32
PDTC144ET	NPN digital transistor	SC04	32
PDTC144EU	NPN digital transistor	sales	32
PDTD114ET	NPN digital transistor	SC04	32
PH2222	Silicon planar epitaxial transistor	SC04	9, 21, 23
PH2222A	Silicon planar epitaxial transistor	SC04	9, 21, 23
PH2369	Silicon planar epitaxial switching transistor	SC04	21, 23
PH2907	Silicon planar epitaxial transistor	SC04	11, 21, 24
PH2907A	Silicon planar epitaxial transistor	SC04	11, 21, 24
PH5416	Silicon PNP high-voltage transistor	SC04	24, 28, 29
PHC21025	Complementary enhancement mode MOS transistors	SC07	46
PHC2250	Complementary enhancement mode MOS transistors	sales	46
PHC2300	Complementary enhancement mode MOS transistors	sales	46
PHN103	N-channel enhancement mode MOS transistor	sales	46
PHN105	N-channel enhancement mode MOS transistor	SC07	46
PHN110	N-channel enhancement mode MOS transistor	SC07	46
PHN210	P-channel enhancement mode MOS transistor	sales	46
PHP109	P-channel enhancement mode MOS transistor	sales	46
PHP112	P-channel enhancement mode MOS transistor	SC07	46
PHP125	P-channel enhancement mode MOS transistor	SC07	46
PHP225	Dual P-channel enhancement mode MOS transistor	SC07	46
PLB16004U	NPN silicon planar epitaxial microwave power transistor	SC15	109

Alphanumeric index

type number	description	hand book	page 4–
PLB16012U	NPN silicon planar epitaxial microwave power transistor	SC15	110
PLB16030U	NPN silicon planar epitaxial microwave power transistor	SC15	110
PLVA2650A	Double low-voltage regulator diode	SC01	58
PLVA2653A	Double low-voltage regulator diode	SC01	58
PLVA2656A	Double low-voltage regulator diode	SC01	58
PLVA2659A	Double low-voltage regulator diode	SC01	58
PLVA2662A	Double low-voltage regulator diode	SC01	58
PLVA2665A	Double low-voltage regulator diode	SC01	58
PLVA2668A	Double low-voltage regulator diode	SC01	58
PLVA450A	Low-voltage avalanche diode	SC01	58
PLVA453A	Low-voltage avalanche diode	SC01	58
PLVA456A	Low-voltage avalanche diode	SC01	58
PLVA459A	Low-voltage avalanche diode	SC01	58
PLVA462A	Low-voltage avalanche diode	SC01	58
PLVA465A	Low-voltage avalanche diode	SC01	58
PLVA468A	Low-voltage avalanche diode	SC01	58
PLVA650A	Low-voltage avalanche diode	SC01	58
PLVA653A	Low-voltage avalanche diode	SC01	58
PLVA656A	Low-voltage avalanche diode	SC01	58
PLVA659A	Low-voltage avalanche diode	SC01	58
PLVA662A	Low-voltage avalanche diode	SC01	58
PLVA665A	Low-voltage avalanche diode	SC01	58
PLVA668A	Low-voltage avalanche diode	SC01	58
PMBD2835	High-speed double diode	SC01	50, 52
PMBD2836	High-speed double diode	SC01	50, 52
PMBD2837	High-speed double diode	SC01	50, 52
PMBD2838	High-speed double diode	SC01	50, 52
PMBD352	Schottky barrier double diode	SC01	54, 55
PMBD353	Schottky barrier double diode	SC01	54, 55
PMBD6050	High-speed diode	SC01	50, 52
PMBD6100	High-speed double diode	SC01	50, 52
PMBD7000	High-speed double diode	SC01	50, 52
PMBD914	High-speed diode	SC01	50, 52
PMBF107	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 44
PMBF170	N-channel enhancement mode vertical D-MOS transistor	SC07	42, 44
PMBF4391	N-channel FET	SC07	38, 39
PMBF4392	N-channel FET	SC07	38, 39
PMBF4393	N-channel FET	SC07	38, 39
PMBF4416	N-channel field-effect transistor	SC07	35, 37
PMBF4416A	N-channel field-effect transistor	SC07	35, 37
PMBF5484	N-channel field-effect transistor	SC07	35, 37
PMBF5485	N-channel field-effect transistor	SC07	35, 37
PMBF5486	N-channel field-effect transistor	SC07	35, 37
PMBFJ108	N-channel junction FET	SC07	38, 39
PMBFJ109	N-channel junction FET	SC07	38, 39
PMBFJ110	N-channel junction FET	SC07	38, 39
PMBFJ111	N-channel junction FET	SC07	38, 39
PMBFJ112	N-channel junction FET	SC07	38, 39
PMBFJ113	N-channel junction FET	SC07	38, 39
PMBFJ174	P-channel silicon field-effect transistor	SC07	38, 40
PMBFJ175	P-channel silicon field-effect transistor	SC07	38, 40
PMBFJ176	P-channel silicon field-effect transistor	SC07	38, 40
PMBFJ177	P-channel silicon field-effect transistor	SC07	38, 40
PMBFJ308	N-channel silicon field-effect transistor	SC07	35, 37
PMBFJ309	N-channel silicon field-effect transistor	SC07	35, 37
PMBFJ310	N-channel silicon field-effect transistor	SC07	35, 37

type number	description	hand book	page 4–
PMBS3904	Silicon epitaxial transistor	SC04	5, 14
PMBS3906	Silicon epitaxial transistor	SC04	6, 16
PMBT2222	Silicon planar epitaxial transistor	SC04	21, 26
PMBT2222A	Silicon planar epitaxial transistor	SC04	21, 26
PMBT2369	Silicon planar epitaxial switching transistor	SC04	21, 26
PMBT2907	Silicon planar epitaxial transistor	SC04	21, 27
PMBT2907A	Silicon planar epitaxial transistor	SC04	21, 27
PMBT3904	Silicon epitaxial transistor	SC04	21, 26
PMBT3906	Silicon epitaxial transistor	SC04	21, 27
PMBT4401	Silicon planar epitaxial transistor	SC04	21, 26
PMBT4403	Silicon planar epitaxial transistor	SC04	21, 27
PMBT5088	Silicon planar epitaxial transistor	SC04	17, 18
PMBT5089	Silicon planar epitaxial transistor	sales	14, 17
PMBT5401	Silicon PNP high-voltage transistor	SC04	28, 30
PMBT5550	Silicon NPN high-voltage transistor	SC04	28, 30
PMBT5551	Silicon NPN high-voltage transistor	SC04	28, 30
PMBT6428	Silicon epitaxial transistor	SC04	5, 14
PMBT6429	Silicon epitaxial transistor	SC04	5, 14
PMBTA06	Silicon epitaxial transistor	SC04	5, 14
PMBTA13	NPN small-signal Darlington transistor	SC04	5, 14
PMBTA14	NPN small-signal Darlington transistor	SC04	5, 14
PMBTA20	NPN small-signal transistor	sales	14
PMBTA42	Silicon epitaxial transistor	SC04	28, 30
PMBTA43	Silicon epitaxial transistor	SC04	28, 30
PMBTA55	Silicon epitaxial transistor	SC04	6, 16
PMBTA56	Silicon epitaxial transistor	SC04	6, 16
PMBTA63	PNP small-signal Darlington transistor	SC04	6, 16
PMBTA64	PNP small-signal Darlington transistor	SC04	6, 16
PMBTA92	Silicon epitaxial transistor	SC04	28, 30
PMBTA93	Silicon epitaxial transistor	SC04	28, 30
PMBTH10	NPN 1 GHz general purpose switching transistor	SC14	95
PMBTH81	PNP 1 GHz switching transistor	SC14	95
PMBZ5226B	Silicon planar voltage regulator diode	SC01	57
PMBZ5257B	Silicon planar voltage regulator diode	SC01	57
PMLL4148	High-speed diode	SC01	50, 52
PMLL4150	High-speed diode	SC01	52
PMLL4151	High-speed diode	SC01	52
PMLL4153	High-speed diode	SC01	52
PMLL4446	High-speed diode	SC01	52
PMLL4448	High-speed diode	SC01	52
PMLL5225B	Voltage regulator diode	SC01	57
PMLL5267B	Voltage regulator diode	SC01	57
PMSS3904	NPN general purpose transistor	SC04	5, 14
PMSS3906	PNP general purpose transistor	SC04	6, 14
PMST2222	Silicon planar epitaxial transistor	sales	26
PMST2222A	Silicon planar epitaxial transistor	sales	21, 26
PMST2369	NPN switching transistor	SC04	21, 26
PMST2907	Silicon planar epitaxial transistor	sales	21, 27
PMST3904	NPN switching transistor	SC04	21, 26
PMST3906	PNP switching transistor	SC04	21, 27
PMST4401	NPN switching transistor	SC04	21, 26
PMST4403	PNP switching transistor	SC04	21, 27
PMST5088	NPN general purpose transistor	SC04	17, 18
PMST5089	NPN general purpose transistor	SC04	17, 18
PMST5401	PNP high voltage transistor	SC04	28, 30
PMST5550	NPN high-voltage transistor	SC04	28, 30

Alphanumeric index

type number	description	hand book	page 4–
PMST5551	NPN high-voltage transistor	SC04	28, 30
PMST6428	NPN amplifier transistor	SC04	5, 14
PMST6429	NPN amplifier transistor	SC04	5, 14
PN2222	Silicon planar epitaxial transistor	SC04	9, 21, 23
PN2222A	Silicon planar epitaxial transistor	SC04	9, 21, 23
PN2369	Silicon planar epitaxial transistor	SC04	21, 23
PN2907	Silicon planar epitaxial transistor	SC04	21, 24
PN2907A	Silicon planar epitaxial transistor	SC04	21, 24
PN3439	Silicon NPN high-voltage transistor	SC04	23, 28, 29
PN3440	Silicon NPN high-voltage transistor	SC04	23, 29
PN34400	Silicon NPN high-voltage transistor	sales	28
PN4391	N-channel silicon field-effect transistor	SC07	38, 39
PN4392	N-channel silicon field-effect transistor	SC07	38, 39
PN4393	N-channel silicon field-effect transistor	SC07	38, 39
PN4416	N-channel field-effect transistor	SC07	35, 36
PN4416A	N-channel field-effect transistor	SC07	35, 36
PPC5001T	Microwave power transistor	SC15	110
PRF947	NPN wideband transistor	sales	94
PRF957	NPN wideband transistor	sales	94
PRLL4001	Controlled avalanche rectifier	SC01	60
PRLL4002	Controlled avalanche rectifier	SC01	60
PRLL5817	Schottky barrier diode	SC01	69
PRLL5818	Schottky barrier diode	SC01	69
PRLL5819	Schottky barrier diode	SC01	69
PTB23001X	Microwave power transistor	SC15	109
PTB23002U	NPN silicon planar epitaxial microwave power transistor	SC15	109
PTB23003X	Microwave power transistor	SC15	109
PTB23005X	Microwave power transistor	SC15	109
PTB23006U	NPN silicon planar epitaxial microwave power transistor	SC15	109
PTB32001X	Microwave power transistor	SC15	109
PTB32003X	Microwave power transistor	SC15	109
PTB32005X	Microwave power transistor	SC15	109
PTC4001T	NPN silicon microwave power transistor	SC15	110
PUMT1	Dual PNP general purpose low-frequency transistor	sales	6, 16
PUMX1	Dual NPN general purpose low-frequency transistor	sales	5, 14
PUMZ1	NPN and PNP general purpose low-frequency transistor	sales	5, 14
PVB42004X	Microwave power transistor	SC15	109
PXB16050U	NPN silicon planar epitaxial microwave power transistor	SC15	110
PXT2222A	Silicon planar epitaxial transistor	SC04	21, 26
PXT2907A	Silicon planar epitaxial transistor	SC04	21, 27
PXT3904	Silicon planar epitaxial transistor	SC04	21, 26
PXT3906	Silicon planar epitaxial transistor	SC04	21, 27
PXT4401	Silicon planar epitaxial transistor	SC04	21, 26
PXT4403	Silicon planar epitaxial transistor	SC04	27
PXTA14	NPN small-signal Darlington transistor	SC04	5, 14
PXTA27	Small-signal Darlington transistor	SC04	5, 14
PXTA42	Silicon epitaxial transistor	SC04	28, 30
PXTA43	Silicon epitaxial transistor	SC04	30
PXTA64	PNP small-signal Darlington transistor	SC04	6, 16
PXTA77	Small-signal Darlington transistor	SC10	16
PXTA92	Silicon epitaxial transistor	SC04	28, 30
PXTA93	Silicon epitaxial transistor	SC04	30
PZ1418B15U	Microwave power transistor for broadband amplifier	SC15	110
PZ1418B30U	Microwave power transistor for wideband amplifier	SC15	110
PZ1721B25U	Microwave power transistor for wideband amplifier	SC15	110
PZ2024B20U	Microwave power transistor for wideband amplifier	SC15	110

type number	description	hand book	page 4–
PZB16035U	Microwave power transistor	SC15	110
PZFJ108	N-channel junction FET	SC07	38, 39
PZFJ109	N-channel junction FET	SC07	38, 39
PZFJ110	N-channel junction FET	SC07	38, 39
PZT2222A	Silicon planar epitaxial transistor	SC04	21, 26
PZT2369	Silicon planar epitaxial transistor	sales	21, 23
PZT2907A	Silicon planar epitaxial transistor	SC04	21, 27
PZT3904	Silicon planar epitaxial transistor	SC04	21, 26
PZT3906	Silicon planar epitaxial transistor	SC04	21, 27
PZT5401	PNP high voltage transistor	sales	28, 30
PZT5551	Silicon NPN high-voltage transistor	sales	28, 30
PZTA06	Silicon epitaxial transistor	SC04	14, 26
PZTA14	Small-signal Darlington transistor	SC04	5, 14
PZTA42	Silicon epitaxial transistor	SC04	28, 30
PZTA44	NPN high-voltage transistor	SC04	30
PZTA45	NPN high-voltage transistor	SC04	30
PZTA55	Silicon epitaxial transistor	SC04	6, 27
PZTA56	Silicon epitaxial transistor	SC04	6, 16, 27
PZTA64	Small-signal Darlington transistor	SC04	6, 16
PZTA92	Silicon epitaxial transistor	SC04	28, 31
PZTA93	Silicon epitaxial transistor	SC04	28, 31
RN2731B110W	NPN silicon planar epitaxial microwave power transistor	SC15	112
RN3034B80W	NPN silicon planar epitaxial microwave power transistor	SC15	112
RO2731B10W	NPN silicon planar epitaxial microwave power transistor	SC15	112
RO2731B20W	NPN silicon planar epitaxial microwave power transistor	SC15	112
RO2731B50W	NPN silicon planar epitaxial microwave power transistor	SC15	112
RX1214B130Y	NPN silicon planar epitaxial microwave power transistor	SC15	112
RX1214B150W	Microwave power transistor	sales	112
RX1214B170W	NPN silicon planar epitaxial microwave power transistor	SC15	112
RX1214B300Y	Pulsed microwave power transistor	SC15	112
RX1214B350Y	NPN silicon planar epitaxial microwave power transistor	SC15	112
RZ1214B35Y	Pulsed microwave power transistor	SC15	112
RZ1214B65Y	Pulsed microwave power transistor	SC15	112
VN2406L	N-channel enhancement mode vertical D-MOS transistor	SC07	43
VN2410L	N-channel enhancement mode vertical D-MOS transistor	SC07	43

Alphanumeric index

CIRCULATORS AND ISOLATORS

2722 xxx xxxxx

type number	page 5–	type number	page 5–	type number	page 5–	type number	page 5–
161 01211	9	162 02231	9	162 03661	5	162 05821	5
161 01222	9	162 02401	7	162 03671	5	162 05881	5
161 01261	9	162 02471	9	162 03681	5	162 05891	5
161 01361	9	162 02492	7	162 03691	5	162 05971	5
161 02071	9	162 02501	9	162 03722	6	162 05981	5
161 02212	9	162 02511	8	162 03732	6	162 05991	5
161 02312	9	162 02531	7	162 03802	7	162 06003	5
161 02322	9	162 02541	8	162 03811	7	162 06111	7
161 04003	9	162 02551	8	162 03821	7	162 06161	6
161 04052	9	162 02571	8	162 03871	6	162 06671	7
161 04062	9	162 02581	8	162 03881	7	162 06701	7
162 01121	6	162 02591	8	162 03891	8	162 06893	5
162 01131	6	162 02601	8	162 03901	8	162 06903	5
162 01141	7	162 02671	6	162 03911	7	162 06931	6
162 01261	6	162 02681	6	162 03921	8	162 07005	5
162 01271	7	162 02691	6	162 03931	8	162 07021	5
162 01281	6	162 02701	6	162 03941	8	162 07141	5
162 01331	7	162 02722	5	162 03951	8	162 07271	5
162 01491	8	162 02741	7	162 03961	6	162 07281	5
162 01501	8	162 02751	7	162 03971	7	162 07361	7
162 01511	9	162 02857	6	162 03981	7	162 07411	6
162 01551	6	162 02903	5	162 03991	6	162 07421	7
162 01555	6	162 02913	5	162 04031	9	162 07511	7
162 01561	7	162 02921	6	162 04041	9	162 07597	7
162 01563	6	162 02931	6	162 04051	8	162 07601	8
162 01572	6	162 02943	5	162 04061	8	162 07651	6
162 01582	6	162 02953	5	162 04091	8	162 07661	7
162 01592	6	162 02963	5	162 04101	8	162 07781	7
162 01612	7	162 02981	6	162 04142	5	162 07801	8
162 01632	6	162 02993	5	162 04143	5	162 07811	5
162 01642	6	162 03001	6	162 05002	5	162 07861	8
162 01662	7	162 03011	6	162 05031	5	162 08341	7
162 01771	6	162 03141	6	162 05091	6	162 08461	9
162 01781	6	162 03151	7	162 05101	6	162 08641	7
162 01791	7	162 03171	5	162 05151	5	162 08682	7
162 01801	7	162 03181	5	162 05231	8	162 08721	7
162 01811	9	162 03191	7	162 05241	8	162 08761	6
162 01822	9	162 03201	6	162 05251	8	162 08771	6
162 01851	5	162 03211	7	162 05261	8	162 08781	7
162 01861	5	162 03221	6	162 05271	8	162 08801	7
162 01871	5	162 03231	7	162 05311	8	162 08841	7
162 01881	5	162 03241	6	162 05321	7	162 08871	6
162 01891	5	162 03251	7	162 05331	7	162 08901	7
162 01901	5	162 03261	7	162 05341	8	162 08911	8
162 01931	5	162 03301	9	162 05351	8	162 08921	8
162 01932	5	162 03332	5	162 05361	8	162 09002	9
162 01941	6	162 03342	5	162 05371	6	162 09012	9
162 01951	6	162 03411	6	162 05381	6	162 09022	9
162 01981	7	162 03421	6	162 05391	7	163 01021	8
162 02071	9	162 03431	9	162 05401	9	163 02004	8
162 02091	8	162 03441	9	162 05411	8	163 02005	8
162 02101	8	162 03591	7	162 05471	8	163 02061	8
162 02111	9	162 03621	5	162 05571	7	163 02071	8
162 02122	9	162 03631	5	162 05755	5	163 02101	8
162 02191	8	162 03641	5	162 05782	6		
162 02221	9	162 03651	5	162 05811	5		

Alphanumeric index

type number	description	hand book	page 6–
HIGH-POWER KLYSTRONS			
YK1110	Pulsed power klystron	PC01	5
YK1151	UHF power klystron	PC01	4
YK1220	UHF power klystron	PC01	4
YK1221	UHF power sound klystron	PC01	4
YK1223	UHF power klystron	PC01	4
YK1230	UHF power klystron	PC01	4
YK1233	UHF power klystron	PC01	4
YK1235	UHF power klystron	PC01	4
YK1240	High-power klystron	PC01	5
YK1250	Continuous wave high-power klystron	PC01	5
YK1263	UHF power klystron	DS-PC01	4
YK1265	UHF power klystron	PC01	4
YK1266	UHF power klystron	sales	4
YK1267	UHF power klystron	PC01	4
YK1270	UHF power klystron	PC01	4
YK1273	UHF power klystron	PC01	4
YK1280	UHF power klystron	sales	4
YK1283	UHF power klystron	sales	4
YK1285	UHF power klystron	sales	4
YK1290	UHF power klystron	PC01	4
YK1291	UHF power klystron	PC01	4
YK1292	UHF power klystron	PC01	4
YK1295	UHF power klystron	PC01	4
YK1296	UHF power klystron	PC01	4
YK1297	UHF power klystron	PC01	4
YK1300	Continuous wave high-power klystron	PC01	5
YK1302	Continuous wave high-power klystron	PC01	5
YK1303	Continuous wave high-power klystron	PC01	5
YK1304	High-power klystron	sales	5
YK1305	Continuous wave high-power klystron	PC01	5
YK1310	UHF high-power klystron	sales	4
YK1314	UHF high-power klystron	sales	4
YK1320	High-power klystron	sales	5
YK1350	Continuous wave high-power klystron	PC01	5
YK1353	High-power klystron	sales	5
YK1355	High-power klystron	sales	5
YK1420	Pulsed-power klystron	sales	5
YK1510	Continuous wave high-power klystron	PC01	5
YK1511	Continuous wave high-power klystron	PC01	5
YK1512	Continuous wave high-power klystron	PC01	5
YK1600	Pulsed power klystron	PC01	5
YK1635	Pulsed-power klystron	sales	5
YK1645	Pulsed-power klystron	sales	5
YK2000	UHF power klystron	sales	4
YK2020	UHF high-power klystron	sales	4
YK2060	UHF high-power klystron	sales	4

Alphanumeric index

type number	description	hand book	page 7–
SEMICONDUCTOR SENSORS			
KM110BH/12	Revolution sensor	SC17	5
KM110BH/14	Revolution sensor	SC17	5
KM110BH/2130	Angle sensor hybrid	SC17	5
KM110BH/2190	Angle sensor hybrid	SC17	5
KM110BH/2270	Angle sensor hybrid circuit	DS-SC17	5
KM110BH/2390	Angle sensor	sales	5
KM110BH/2430	Angle sensor	sales	5
KM110BH/2470	Angle sensor	sales	5
KM110BH/31	Rotational speed sensor with direction recognition	SC17	5
KM110BH/32	Rotational speed sensor	sales	5
KM110B/1	Magnetic field sensor	SC17	4
KM110B/4	Magnetic field sensor	sales	4
KMI10/1	Rotational speed sensor	sales	5
KMI10/4	Rotational speed sensor	sales	5
KMZ10A	Magnetic field sensor	SC17	4
KMZ10A1	Magnetic field sensor	SC17	4
KMZ10B	Magnetic field sensor	SC17	4
KMZ10C	Magnetic field sensor	SC17	4
KMZ11B1	Magnetic field sensor	DS-SC17	4
KTY81-110	Silicon temperature sensor	SC17	6
KTY81-120	Silicon temperature sensor	SC17	6
KTY81-121	Silicon temperature sensor	SC17	6
KTY81-122	Silicon temperature sensor	SC17	6
KTY81-150	Silicon temperature sensor	SC17	6
KTY81-151	Silicon temperature sensor	SC17	6
KTY81-152	Silicon temperature sensor	SC17	6
KTY81-210	Silicon temperature sensor	SC17	6
KTY81-220	Silicon temperature sensor	SC17	6
KTY81-221	Silicon temperature sensor	SC17	6
KTY81-222	Silicon temperature sensor	SC17	6
KTY81-250	Silicon temperature sensor	SC17	6
KTY81-251	Silicon temperature sensor	SC17	6
KTY81-252	Silicon temperature sensor	SC17	6
KTY82-110	Silicon temperature sensor	SC17	6
KTY82-120	Silicon temperature sensor	SC17	6
KTY82-121	Silicon temperature sensor	SC17	6
KTY82-122	Silicon temperature sensor	SC17	6
KTY82-150	Silicon temperature sensor	SC17	6
KTY82-151	Silicon temperature sensor	SC17	6
KTY82-152	Silicon temperature sensor	SC17	6
KTY82-210	Silicon temperature sensor	SC17	6
KTY82-220	Silicon temperature sensor	SC17	6
KTY82-221	Silicon temperature sensor	SC17	6
KTY82-222	Silicon temperature sensor	SC17	6
KTY82-250	Silicon temperature sensor	SC17	6
KTY82-251	Silicon temperature sensor	SC17	6
KTY82-252	Silicon temperature sensor	SC17	6
KTY83-110	Silicon temperature sensor	SC17	6
KTY83-120	Silicon temperature sensor	SC17	6
KTY83-121	Silicon temperature sensor	SC17	6
KTY83-122	Silicon temperature sensor	SC17	6
KTY83-150	Silicon temperature sensor	SC17	6
KTY83-151	Silicon temperature sensor	SC17	6
KTY83-152	Silicon temperature sensor	SC17	6

SEMICONDUCTOR SENSORS

Alphanumeric index

type number	description	hand book	page 7–
KTY84-130	Silicon temperature sensor	SC17	6
KTY84-150	Silicon temperature sensor	SC17	6
KTY84-151	Silicon temperature sensor	SC17	6
KTY84-152	Silicon temperature sensor	SC17	6
KTY85-110	Silicon temperature sensor	SC17	7
KTY85-120	Silicon temperature sensor	SC17	7
KTY85-121	Silicon temperature sensor	SC17	7
KTY85-122	Silicon temperature sensor	SC17	7
KTY85-150	Silicon temperature sensor	SC17	7
KTY85-151	Silicon temperature sensor	SC17	7
KTY85-152	Silicon temperature sensor	SC17	7
KTY86-205	Silicon temperature sensor	SC17	7
KTY87-205	Silicon temperature sensor	SC17	7

Integrated Circuits

3

Integrated circuits

Integrated circuits

CONTENTS

GENERAL PURPOSE APPLICATIONS

page

Logic . . . 3-7
- Low-voltage series introduction . . . 3-8
- Low-voltage series survey family specifications . . . 3-11
- Low-voltage series survey (LV, LVC, LVC16, HLL, ALVC, LVT and LVT16) . . . 3-27
- HE4000B family specifications . . . 3-31
- HE4000B series survey (HEF and HEC) . . . 3-35
- HCMOS family specifications . . . 3-39
- HCMOS series survey (HC and HCT) . . . 3-46
- ABT/ABT16 and MULTIBYTE™ family specifications . . . 3-51
- ABT/ABT16 and MULTIBYTE™ series survey (ABT, ABT16 and MB) . . . 3-57
- TTL family characteristics comparison . . . 3-59
- TTL series survey (FAST and ALS) . . . 3-60

PLDs . . . 3-66
- Low-voltage devices . . . 3-66
- Programmabale high-speed decoders . . . 3-66
- PAL-type devices . . . 3-66
  - Combinatorial PAL-type devices . . . 3-66
  - Registered PAL-type devices . . . 3-66
  - Universal PAL-type devices . . . 3-66
- Programmable logic arrays . . . 3-67
- Programmable logic sequencers . . . 3-67
- Programmable macro logic . . . 3-67
- Complex programmable logic . . . 3-67

Memories . . . 3-68
- EEPROMs . . . 3-68
- Bipolar PROMs . . . 3-68
- CMOS RAMs . . . 3-69
- Bipolar RAMs . . . 3-69
- RAM/DRAM controllers . . . 3-69

Microcontrollers . . . 3-70
- 8051-based 8-bit microcontrollers . . . 3-70
  - 80C51 family of CMOS 8-bit microcontrollers . . . 3-70
  - P80CLxxx family of CMOS 8-bit microcontrollers . . . 3-73
- 8048-based 8-bit microcontrollers . . . 3-74
  - PCx8400 family of CMOS 8-bit microcontrollers . . . 3-74
  - Evaluation boards for 84Cxx products . . . 3-75
  - MAx8400 family of NMOS 8-bit microcontrollers . . . 3-75
  - PCD3300 family of CMOS 8-bit microcontrollers . . . 3-75
- CMOS 16/32-bit microcontrollers/microprocessors . . . 3-76
  - 8051XA family of extended architecture CMOS 16-bit microcontrollers . . . 3-76
  - 16/32-bit CMOS microprocessors . . . 3-76

Analog products . . . 3-77
- Amplifiers . . . 3-77
  - High-frequency amplifiers . . . 3-77
  - Operational amplifiers . . . 3-77
  - Transconductance amplifiers . . . 3-78
- AC and DA converters . . . 3-78
  - A/D converters . . . 3-78
  - D/A converters . . . 3-78
  - Comparators . . . 3-78
  - Sample-and-hold amplifiers . . . 3-79

Integrated circuits

- Interface 3-79
  - Peripheral drivers 3-79
  - Position measurement 3-79
- Phase-locked loops 3-79
- Timers 3-79

Display drivers 3-80
- LCD display drivers 3-80
- LED display drivers 3-80
- Vacuum display drivers 3-80

Motor control 3-81

Power supply ICs 3-82
- SMPS controllers 3-82
- Voltage regulators 3-82
- Supply voltage monitors 3-82
- Battery management 3-82

APPLICATION-SPECIFIC

Clocks and watches 3-83
- Analog clock and watch circuits 3-83
  - PCA14xx family of 32 kHz analog watch circuits 3-83
  - PCA153x family of 32 kHz analog clock circuits 3-83
  - PCA159x family of 32 kHz analog alarm clock circuits 3-83
  - PCA16xx family of 32 kHz analog watch circuits 3-84
- 4.19 MHz digital clocks 3-84
- Clock/calendar circuits 3-84

Data communications 3-85
- Digital data communications 3-85
- Linear data communications 3-85
- I^2C-bus controllers and I/O expanders 3-85
- CAN/VAN controllers 3-86
- CAN evaluation boards 3-86
- Futurebus+ products 3-86
- Fibre-optic products 3-86

Radio communications 3-87
- Prescalers and frequency synthesizers 3-87
- Amplifiers 3-87
  - High-frequency amplifiers 3-87
  - Audio amplifiers 3-87
- Mixers/Modulators/Demodulators; Front-end circuits 3-87
- FM IF systems 3-88
- Baseband processors: Audio and Data 3-88
- Compandors 3-89
- Transmitters 3-89
- Pagers and data receivers 3-89
- Miscellaneous ICs 3-89

Telecommunications 3-90
- Telephone sets 3-90
  - Diallers 3-90
  - Speech/transmission circuits 3-90
  - Loudspeaking facilities 3-90
  - Microcontrollers 3-91
- Cordless telephones 3-91
- Pagers and data receivers 3-91

Integrated circuits

Identification & Security . . . 3-92
- Smart card controllers and interfaces . . . 3-92
- Value card/memory card products . . . 3-92
- Contactless RF-identification transponders . . . 3-92
- Miscellaneous circuits . . . 3-93

Radio/Audio . . . 3-94
- Radio receivers . . . 3-94
  - AM receivers . . . 3-94
  - AM/FM receivers . . . 3-94
  - FM receivers . . . 3-94
  - Precision adjacent channel selectivity (PACS) . . . 3-94
  - Combi circuits . . . 3-94
- Frequency/voltage synthesizers . . . 3-94
- VWF and RDS signal decoders . . . 3-94
- Antenna diversity . . . 3-95
- Satellite radio receiver circuits . . . 3-95
- Stereo decoders . . . 3-95
- Noise suppressors . . . 3-95
- Audio circuits . . . 3-95
  - Bus-controlled . . . 3-95
  - DC-controlled . . . 3-95
- Dolby circuits . . . 3-95
- Audio cassette recorder circuits . . . 3-95
- Voltage regulators . . . 3-96
- Audio amplifiers . . . 3-96
- Compact Disc circuits (CD) . . . 3-97
  - CD decoder/encoder . . . 3-97
  - Servo control . . . 3-97
  - CD driver circuits . . . 3-97
  - CD-ROM block decoders . . . 3-97
  - Video CD decoders . . . 3-97
- Digital Compact Cassette circuits (DCC) . . . 3-98
  - PASC processors . . . 3-98
  - Tape-drive processors . . . 3-98
  - Read/write amplifiers . . . 3-98
- Miscellaneous digital audio circuits . . . 3-98
- MPEG audio encoders/decoders . . . 3-98
- DSP circuits . . . 3-98
- Audio AD and DA converters . . . 3-98
  - D/A converters . . . 3-98
  - A/D converters . . . 3-99
  - ADDA converters . . . 3-99
- Control circuits . . . 3-99

Video . . . 3-100
- Tuner and tuning . . . 3-100
  - Tuner . . . 3-100
  - Tuning . . . 3-100
- Vision and sound IF . . . 3-100
  - Vision IF . . . 3-100
  - Sound IF . . . 3-101
- Sound . . . 3-101
  - Sound decoding . . . 3-101
  - Sound control . . . 3-102
  - Sound AD and DA converters . . . 3-102
  - Sound output . . . 3-102
- Vision . . . 3-102
  - Colour decoding, video control . . . 3-102
  - Video AD and DA converters . . . 3-103

Integrated circuits

    - Memory-based features 3-104
    - Video output 3-104
    - On-screen display 3-104
- Sync and deflection, combi/one-chip, power supply 3-104
    - Sync and deflection 3-104
    - Combi/one-chip TV 3-105
    - Power supply 3-105
- Teletext 3-105
- Satellite TV 3-106
- Digital video broadcasting (DVB) 3-106
- Miscellaneous ICs 3-106
    - Encoding 3-106
    - Modulators 3-107
    - Other circuits 3-107
- Dedicated monitor ICs 3-107
- Dedicated VCR ICs 3-107
- Desktop video 3-107
    - Colour decoding, video control 3-107
    - Colour encoding, video control 3-107
    - Video D/A converters 3-108
    - Clock generators 3-108
    - Feature processors 3-108
    - PCI video bridges 3-108
    - Multimedia evaluation boards 3-108
- Control circuits 3-108

Support circuits for Radio/Audio and Video 3-109
- Clock/calendar circuits 3-109
- I^{2}C-bus controllers and I/O expanders 3-109
- Display drivers 3-109
- Remote controllers 3-109

PACKING QUANTITIES 3-110

COMPETITIVE CROSS-REFERENCE GUIDE 3-113

PACKAGE OUTLINES 3-121

FIVE NEW LOW-VOLTAGE LOGIC FAMILIES

Philips has introduced four low-voltage CMOS logic families and one new low-voltage BiCMOS family to complement their existing range of logic ICs: LV-HCMOS, LVC/LVC-A/LVC16, HLL, ALVC and LVT/LVT16. All five families are completely new designs, specifically for 3.3 V operation. LV-HCMOS (Low-voltage, high speed CMOS) logic is a 3.3 V version of our HCMOS family, LVC/LVC-A/LVC16 (Low-voltage CMOS) logic are 3.3 V families compatible with FAST logic. HLL (High speed Low-power Low-voltage) CMOS logic is the worlds fastest 3.3 V TTL-compatible logic, ALVC (Advanced Low-voltage CMOS) is the fastest 16-bit 3.3 V logic with very high speeds and high output drive and very low power consumption. LVT/LVT16 (Low-Voltage Technology) advanced BiCMOS logic are 3.3 V versions of ABT logic.
In summary:

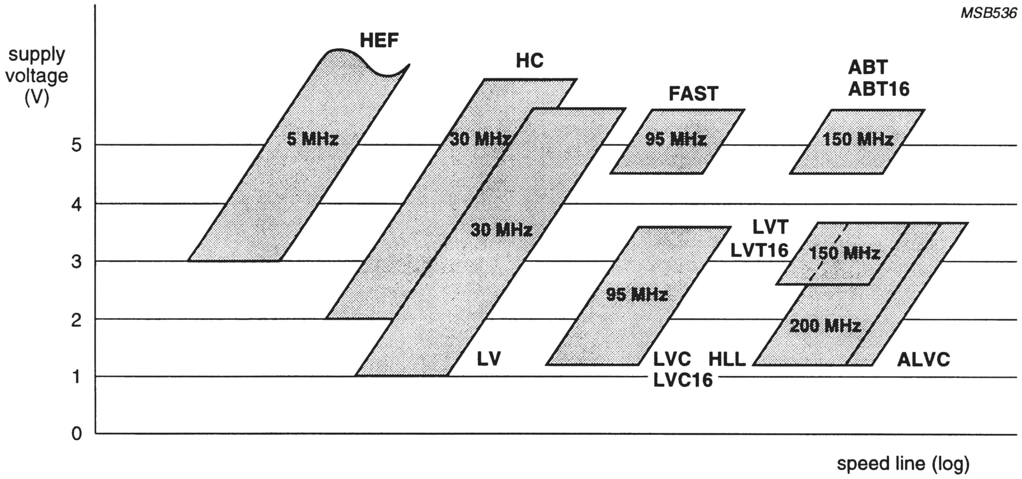
1. **LV-HCMOS**
- **L**ow **V**oltage HCMOS
- A 3.3 V version of our HCMOS series

2. **LVC/LVC-A/LVC16**
- **L**ow **V**oltage **C**MOS
- 3.3 V, compatible with FAST

3. **HLL**
- **H**igh speed, **L**ow voltage, **L**ow power
- Low skew, low EMC

4. **ALVC**
- **A**dvanced **L**ow **V**oltage **C**MOS
- Fastest 3.3 V logic available

5. **LVT/LVT16**
- **L**ow-**V**oltage **T**echnology BiCMOS
- A 3.3 V version of ABT/ABT16



Guaranteed speed versus supply voltage for 3 V and 5 V logic. The speed range per family is due to the various functions within each family

The complementarity of our low-voltage logic families

Feature	LV	LVC/LVC-A	LVC16	HLL	ALVC	LVT	LVT16
Process	CMOS	CMOS	CMOS	CMOS	CMOS	BiCMOS	BiCMOS
Speed	medium	high	high	very high	very high	very high	very high
Product range	switches gates/FF decoders MUX/DEMUX octals	gates/FF decoders MUX/DEMUX octals	multibyte	octals	multibyte	octals	multibyte
Output drive	low	high	high	high	high	very high	very high
5 V input & output[1]	no	yes	yes	yes	yes	yes	yes
Over-voltage protection	no	no	no	no	no	yes	yes
Live insertion support	no	no	no	no	no	yes	yes
5 V equivalent	HC, LS	F, ACL	F, ACL	FCT-C	FCT16-C	ABT, BCT, FCT-A	ABT16, FCT16-C
Primary applications	glue logic portable eq.	glue logic portable eq. local bus	portable eq. local bus super µP	portable eq. local bus super µP	portable eq. local bus super µP	local bus super µP backplanes	local bus super µP backplanes

Note:

[1] See next table for details.

Key parameters and features comparison of Philips 3 V logic families

	LV	LVC/LVC-A	LVC16	HLL	ALVC	LVT	LVT16
Key parameters							
Nomenclature 1)	74LVxxxX	74LVCxxxX	74LVC16xxxX	74HLL33xxxX	74ALVC16xxxX	74LVTxxxX	74LVT16xxxX
Minimum V_{CC} V	1.0	1.2	1.2	1.2	1.2	2.7	2.7
Maximum V_{CC} V	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Output current I_{OH}/I_{OL} mA	6/6	24/24	24/24	24/24	24/24	32/64	32/64
Quiescent current µA	80	20	40	80	40	80	80
'244 propagation delay:							
T_{pd} typ. ns	9	4.0	4.0	2.1	2.1	2.4	2.4
T_{pd} max. ns	18	5.8	5.8	4.0	4.0	3.6	3.6
Max. ground bounce V	0.5	0.8	0.8	1.0	0.7	0.8	0.5
Features							
Full CMOS	✓	✓	✓	✓	✓		
Advanced BiCMOS						✓	✓
Drive capability:							
135 Ω	✓						
50 Ω		✓	✓	✓	✓		
35 Ω						✓	✓
Feature size:							
2.0 µm	✓						
0.8 µm						✓	✓
0.6 µm		✓	✓	✓	✓		
Corner supply pins	✓	✓				✓	
Centre supply pins				✓			
Multiple supply/GND pins			✓		✓		✓
TTL level input	✓	✓	✓	✓	✓	✓	✓
TTL level output	✓	✓	✓	✓	✓	✓	✓
5 V input capability		✓ 4)	✓ 3)	✓ 2)	✓ 3)	✓	✓
Over-voltage protection						✓	✓
Live insertion						✓	✓
Input bus hold		✓ 4)				✓	✓
Packages:							
DIL	✓						
SO	✓	✓		✓		✓	
SSOP	✓	✓	✓	✓	✓	✓	✓
TSSOP	✓	✓	✓	✓	✓	✓	✓
Application:							
glue logic	✓	✓					
battery-powered	✓	✓	✓	✓	✓		
equipment		✓	✓	✓	✓	✓	✓
local bus			✓	✓	✓	✓	✓
super µP						✓	✓
backplane							
Compatible 5 V families	LS-TTL HC/HCT N74xx	FAST, ALS ACL (Q)FACT	FAST, ALS ACL (Q)FACT	FCT-C	FCT-C	ABT BC/BCT FCT-A	ABT BC/BCT FCT16-C

Notes:

1) xxx = function indication; 245 etc.
X = package code: D = SO, DB = SSOP II, PW = TSSOP I, DL = SSOP 48-56, DGG = TSSOP 48-56.

2) For transceiver I/O pins $V_{IN\ max} = V_{CC} + 0.5$ V.

3) For control pins only; other input and output pins: $V_{IN\ max} = V_{CC} + 0.5$ V.

4) For LVC-A: 5 V tolerance for inputs and outputs; Bus hold as an option.

Type number designation

LV, LVC and LVT Series (74LVxxxx, 74LVCxxxx, 74LVTxxxx)

LV
74 LVC xxx x
LVT

package code:
A = LVC with 5 V tolerance I/Os
N = plastic DIL;
D = plastic mini-pack (SO)
DB = shrink plastic mini-pack (SSOP), type II
PW = thin shrink plastic mini-pack (TSSOP), type I

= device code specifying the device function

LV = LV-HCMOS series
LVC = Low-voltage CMOS series
LVT = Low-voltage technology series

74 = commercial operating temperature range −40 to +85 °C
= commercial operating temperature range −40 to +125 °C
for LV-HCMOS series

HLL Series (74HL33xxxx)

74 HL 33 xxx x

package code:
D = plastic mini-pack (SO)
DB = shrink small plastic mini-pack (SSOP), type II
PW = thin shrink plastic mini-pack (TSSOP), type I

= device code specifying the device function

33 = pinout designator; center V_{CC} and GND pins

HL = HLL series

74 = commercial operating temperature range −40 to +85 °C

ALVC Series (74ALVC16xxxx, 74LVT16xxxx)

ALVC
74 LVT 16 xxx x

package code:
DL = shrink small plastic mini-pack (SSOP), type III
DGG = thin shrink plastic mini-pack (TSSOP), type II

= device code specifying the device function

16 = dual-byte function

ALVCH = Advanced low-voltage CMOS series
LVT = Low-voltage technology series

74 = commercial operating temperature range −40 to +85 °C

Family ratings for the LV series

Limiting values in accordance with the Absolute Maximum System (IEC 134)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+7.0	V
DC input diode current	$V_I < -0.5$ V or $V_I > V_{CC}+0.5$ V	I_{IK}	–	20	mA
DC output diode current	$V_O < -0.5$ V or $V_O > V_{CC}+0.5$ V	I_{OK}	–	50	mA
DC output source or sink current	$-0.5V < V_O < V_{CC}+0.5$ V				
- standard outputs		I_O	–	25	mA
- bus driver outputs		I_O	–	35	mA
DC V_{CC} or GND current					
- standard outputs		I_{CC}; I_{GND}	–	50	mA
- bus driver outputs		I_{CC}; I_{GND}	–	70	mA
Storage temperature range		T_{stg}	−65	+150	°C
Power dissipation per package	for temperature range: −40 to +125 °C;				
- plastic DIL	above +70 °C derate linearly by 12 mW/K	P_{tot}	–	750	mW
- plastic mini-pack (SO)	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW
- plastic shrink small outline (SSOP type II)	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW
- plastic thin shrink small outline (TSSOP type I)	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW

Recommended operating conditions for the LV series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	min.	typ.	max.	unit	conditions
DC supply voltage range[1]	V_{CC}	1.0	3.3	5.5	V	
DC input voltage range	V_I	0	–	V_{CC}	V	
DC output voltage range	V_O	0	–	V_{CC}	V	
Operating ambient temperature range in free air	T_{amb}	−40 −40	– –	+85 +125	°C °C	see AC and DC characteristics per device
Input rise and fall times except for Schmitt trigger inputs	t_r; t_f	–	–	500	ns/V	V_{CC} = 1.0 to 2.0 V
		–	–	200	ns/V	V_{CC} = 2.0 to 2.7 V
		–	–	100	ns/V	V_{CC} = 2.7 to 3.6 V

Note:

1. The LV is guaranteed to function down to V_{CC} = 1.0 V (input levels GND or V_{CC}); DC characteristics are guaranted from V_{CC} = 1.2 V to V_{CC} = 3.6 V

DC family characteristics for the LV series

Over recommended operating conditions
Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C)						conditions	
			−40 to +85			−40 to +125				
parameter	V_{CC} V	symbol	min.	typ.	max.	min.	max.	unit	V_I	other
HIGH level input voltage	1.2	V_{IH}	0.9	–	–	0.9	–	V		
	2.0		1.4	–	–	1.4	–			
	2.7 .. 3.6		2.0	–	–	2.0	–			
	4.5 .. 5.5		$0.7V_{CC}$	–	–	$0.7V_{CC}$	–			
LOW level input voltage	1.2	V_{IL}	–	–	0.3	–	0.3	V		
	2.0		–	–	0.6	–	0.6			
	2.7 .. 3.6		–	–	0.8	–	0.8			
	4.5 .. 5.5		–	–	$0.3V_{CC}$	–	$0.3V_{CC}$			
HIGH level output voltage all outputs	1.2	V_{OH}	–	1.2	–	–	–	V	V_{IH} or V_{IL}	$-I_O = 100\ \mu A$
	2.0		1.8	2.0	–	1.8	–			
	2.7		2.5	2.7	–	2.5	–			
	3.0		2.8	3.0	–	2.8	–			
	4.5		4.3	4.5	–	4.3	–			
HIGH level output voltage standard	3.0	V_{OH}	2.40	2.82	–	2.20	–	V	V_{IH} or V_{IL}	$-I_O = 6$ mA
	4.5		3.60	4.20	–	–	–			$-I_O = 10$ mA
HIGH level output voltage bus driver	3.0	V_{OH}	2.40	2.82	–	2.20	–	V	V_{IH} or V_{IL}	$-I_O = 8$ mA
	4.5		3.60	4.20	–	–	–			$-I_O = 16$ mA
LOW level output voltage all outputs	1.2	V_{OL}	–	0	0.2	–	0.2	V	V_{IH} or V_{IL}	$I_O = 100\ \mu A$
	2.0		–	0	0.2	–	0.2			
	2.7		–	0	0.2	–	0.2			
	3.0		–	0	0.2	–	0.2			
	4.5		–	0	0.2	–	0.2			
LOW level output voltage standard	3.0	V_{OL}	–	0.25	0.4	–	0.5	V	V_{IH} or V_{IL}	$I_O = 6$ mA
	4.5		–	o.35	0.55	–	–			$I_O = 10$ mA
LOW level output voltage bus driver	3.0	V_{OL}	–	0.20	0.4	–	0.5	V	V_{IH} or V_{IL}	$I_O = 8$ mA
	4.5		–	0.35	0.55	–	–			$I_O = 16$ mA
Input leakage current	3.6	I_I	–	–	1.0	–	1.0	µA	V_{CC} or GND	
	5.5		–	–	1.0	–	–			
3-state OFF-state current	3.6	I_{OZ}	–	–	5.0	–	10.0	µA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND
	5.5		–	–	5.0	–	–			
Quiescent supply current										
SSI	3.6	I_{CC}	–	–	20	–	40	µA	V_{CC} or GND	$I_O = 0$
flip-flops	3.6	I_{CC}	–	–	20	–	80	µA		$I_O = 0$
MSI	3.6	I_{CC}	–	–	20	–	160	µA		$I_O = 0$
LSI	3.6	I_{CC}	–	–	500	–	1000	µA		$I_O = 0$
additional quiescent sypply current per input	2.7 .. 3.6	ΔI_{CC}	–	–	500	–	850	µA	V_{CC} −0.6V	

Note: All typical values are measured at $T_{amb} = 25°C$

Family ratings for the LVC series

Limiting values in accordance with the Absolute Maximum System (IEC 134), (notes 1 and 2)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+6.5	V
DC input diode current	$V_I < 0$	I_{IK}	–	−50	mA
DC input voltage	note 2	V_I	−0.5	+5.5	V
DC input voltage range for I/Os		$V_{I/O}$	−0.5	V_{CC} + 0.5	V
DC output diode current	$V_O > V_{CC}$ or $V_O < 0$	I_{OK}	–	±50	mA
DC output voltage	note 2	V_O	−0.5	V_{CC} + 0.5	V
DC output source or sink current	V_O = 0 to V_{CC}	I_O	–	±50	mA
DC V_{CC} or GND current		I_{CC}; I_{GND}	–	±100	mA
Storage temperature range		T_{stg}	−60	+150	°C
Power dissipation per package	see data handbook	P_{tot}			

Notes:

1. Stresses beyond those listed may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those under 'recommended operating conditions' is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.
2. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

Recommended operating conditions for the LVC series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	min.	max.	unit	conditions
DC supply voltage range (for max. speed performance)	V_{CC}	2.7	3.6	V	
DC supply voltage (for low-voltage applications)	V_{CC}	1.2	3.6	V	
DC input voltage range	V_I	0	5.5	V	
DC input voltage range for I/Os	$V_{I/O}$	0	V_{CC}	V	
DC output voltage range	V_O	0	V_{CC}	V	
Operating ambient temperature range in free air	T_{amb}	−40	+85	°C	see AC and DC characteristics per device
Input rise and fall times	t_r; t_f	– –	20 10	ns/V ns/V	V_{CC} = 1.2 to 2.7 V V_{CC} = 2.7 to 3.6 V

DC family characteristics for the LVC series

Over recommended operating conditions
Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C) −40 to +85				conditions	
parameter	V_{CC} V	symbol	min.	typ.	max.	unit	V_I	other
HIGH level input voltage	1.2	V_{IH}	V_{CC}	–	–	V		
	2.7 .. 3.6		2.0	–	–			
LOW level input voltage	1.2	V_{IL}	–	–	GND	V		
	2.7 .. 3.6		–	–	0.8			
HIGH level output voltage	2.7	V_{OH}	V_{CC} − 0.5	–	–	V	V_{IH} or V_{IL}	I_O = −12 mA
	3.0		V_{CC} − 0.2	V_{CC}	–			I_O = −100 μA
	3.0		V_{CC} − 0.6	–	–			I_O = −18 mA
	3.0		V_{CC} − 1.0	–	–			I_O = −24 mA
LOW level output voltage	2.7	V_{OL}	–	–	0.40	V	V_{IH} or V_{IL}	I_O = 12 mA
	3.0		–	–	0.20			I_O = 100 μA
	3.0		–	–	0.55			I_O = 24 mA
Input leakage current	3.6	I_I	–	±0.1	±5	μA	5.5 V or GND	not for I/O pins
Input current for common I/O pins	3.6	I_{IHZ}/I_{ILZ}	–	±0.1	±15	μA	V_{CC} or GND	
3-state output OFF-state current	3.6	I_{OZ}	–	0.1	±10	μA	V_{IH} or V_{IL}	V_O = V_{CC} or GND
Quiescent supply current	3.6	I_{CC}	–	0.1	20	μA	V_{CC} or GND	I_O = 0
Additional quiescent sypply current per control pin	2.7 .. 3.6	ΔI_{CC}	–	5	500	μA	V_{CC} − 0.6 V	I_O = 0

Note: All typical values are measured at V_{CC} = 3.3 V and T_{amb} = 25°C.

Family ratings for the LVC-A series

Limiting values in accordance with the Absolute Maximum System (IEC 134), (notes 1 and 2)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	–0.5	+6.5	V
DC input diode current	$V_I < 0$	I_{IK}	–	–50	mA
DC input voltage	note 2	V_I	–0.5	+6.5	V
DC output diode current	$V_O > V_{CC}$ or $V_O < 0$	I_{OK}	–	±50	mA
DC output voltage; output HIGH or LOW state	note 2	V_O	–0.5	V_{CC} + 0.5	V
DC output voltage; output 3-state	note 2	V_O	–0.5	6.5	V
DC output source or sink current	V_O = 0 to V_{CC}	I_O	–	±50	mA
DC V_{CC} or GND current		I_{CC}; I_{GND}	–	±100	mA
Storage temperature range		T_{stg}	–60	+150	°C
Power dissipation per package		P_{tot}			
plastic mini-pack (SO)	above +70°C derate linearly with 8 mW/K		–	500	mW
plastic shrink mini-pack (SSOP and TSSOP)	above +60°C derate linearly with 5.5 mW/K		–	500	mW

Notes:

1. Stresses beyond those listed may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those under 'recommended operating conditions' is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.
2. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

Recommended operating conditions for the LVC-A series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	min.	max.	unit	conditions
DC supply voltage range (for max. speed performance)	V_{CC}	2.7	3.6	V	
DC supply voltage (for low-voltage applications)	V_{CC}	1.2	3.6	V	
DC input voltage range	V_I	0	5.5	V	
DC output voltage range; output HIGH or LOW state	V_O	0	V_{CC}	V	
DC output voltage range; output 3-state	V_O	0	5.5	V	
Operating ambient temperature range in free air	T_{amb}	–40	+85	°C	see AC and DC characteristics per device
Input rise and fall times	t_r; t_f	– –	20 10	ns/V ns/V	V_{CC} = 1.2 to 2.7 V V_{CC} = 2.7 to 3.6 V

DC family characteristics for the LVC-A series

Over recommended operating conditions
Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C) −40 to +85				conditions	
parameter	V_{CC} V	symbol	min.	typ.	max.	unit	V_I	other
HIGH level input voltage	1.2	V_{IH}	V_{CC}	–	–	V		
	2.7 .. 3.6		2.0	–	–			
LOW level input voltage	1.2	V_{IL}	–	–	GND	V		
	2.7 .. 3.6		–	–	0.8			
HIGH level output voltage	2.7	V_{OH}	$V_{CC} - 0.5$	–	–	V	V_{IH} or V_{IL}	$I_O = -12$ mA
	3.0		$V_{CC} - 0.2$	V_{CC}	–			$I_O = -100$ µA
	3.0		$V_{CC} - 0.6$	–	–			$I_O = -18$ mA
	3.0		$V_{CC} - 0.8$	–	–			$I_O = -24$ mA
LOW level output voltage	2.7	V_{OL}	–	–	0.40	V	V_{IH} or V_{IL}	$I_O = 12$ mA
	3.0		–	–	0.20			$I_O = 100$ µA
	3.0		–	–	0.55			$I_O = 24$ mA
Input leakage current	3.6	I_I	–	±0.1	±5	µA	5.5 V or GND	not for I/O pins
Input current for common I/O pins	3.6	I_{IHZ}/I_{ILZ}	–	±0.1	±10	µA	5.5 V or GND	
3-state OFF-state current	3.6	I_{OZ}	–	0.1	±10	µA	V_{IH} or V_{IL}	$V_O = 5.5$ V or GND
Power off leakage current	0.0	I_{off}	–	–	±100	µA	V_I or V_O = 5.5 V	
Quiescent supply current	3.6	I_{CC}	–	0.1	20	µA	V_{CC} or GND	$I_O = 0$
Additional quiescent sypply current per control pin	2.7 .. 3.6	ΔI_{CC}	–	5	500	µA	$V_{CC} -$ 0.6 V	$I_O = 0$
Bushold LOW sustaining current	3.0	I_{BHL}	75	–	–	µA	0.8 V	notes 2 and 3
Bushold HIGH sustaining current	3.0	I_{BHH}	−75	–	–	µA	2.0 V	notes 2 and 3
Bushold LOW overdrive current	3.6	I_{BHLO}	450	–	–	µA		notes 2 and 3
Bushold HIGH overdrive current	3.6	I_{BHHO}	−450	–	–	µA		notes 2 and 3

Notes:

1. All typical values are measured at $V_{CC} = 3.3$ V and $T_{amb} = 25$°C.
2. Control inputs do not have a bushold circuit. Parts with busholds are called LVH-A.
3. The specified sustaining current at the data input holds the input below the specified V_I level.
4. The specified overdrive current at the data input porces the data input to the opposite logic input state.

Family ratings for the LVC16 series

Limiting values in accordance with the Absolute Maximum System (IEC 134), (notes 1 and 2)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	–0.5	+4.6	V
DC input diode current	$V_I < 0$	I_{IK}	–	–50	mA
DC input voltage	for control pins only; note 2	V_I	–0.5	+5.5	V
DC input voltage	for data pins only; note 2	V_I	–0.5	$V_{CC} + 0.5$	V
DC output diode current	$V_O > V_{CC}$ or $V_O < 0$	I_{OK}	–	±50	mA
DC output voltage	note 2	V_O	–0.5	$V_{CC} + 0.5$	V
DC output source or sink current	$V_O = 0$ to V_{CC}	I_O	–	±50	mA
DC V_{CC} or GND current		I_{CC}; I_{GND}	–	±100	mA
Storage temperature range		T_{stg}	–60	+150	°C
Power dissipation per package	see data handbook	P_{tot}			

Notes:

1. Stresses beyond those listed may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those under 'recommended operating conditions' is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.
2. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

Recommended operating conditions for the LVC16 series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	min.	max.	unit	conditions
DC supply voltage range (for max. speed performance)	V_{CC}	2.7	3.6	V	
DC supply voltage (for low-voltage applications)	V_{CC}	1.2	3.6	V	
DC input voltage range	V_I	0	5.5	V	
DC input voltage range	V_I	0	V_{CC}	V	
DC output voltage range	V_O	0	V_{CC}	V	
Operating ambient temperature range in free air	T_{amb}	–40	+85	°C	see AC and DC characteristics per device
Input rise and fall times	t_r; t_f	– –	20 10	ns/V ns/V	$V_{CC} = 3.6$ V $V_{CC} = 1.2$ V

DC family characteristics for the LVC16 series

Over recommended operating conditions
Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C) −40 to +85				conditions	
parameter	V_{CC} V	symbol	min.	typ.[1]	max.	unit	V_I	other
HIGH level input voltage	1.2	V_{IH}	V_{CC}	–	–	V		
	2.7 .. 3.6		2.0	–	–			
LOW level input voltage	1.2	V_{IL}	–	–	GND	V		
	2.7 .. 3.6		–	–	0.8			
HIGH level output voltage	2.7	V_{OH}	$V_{CC} - 0.5$	–	–	V	V_{IH} or V_{IL}	$I_O = -12$ mA
	3.0		$V_{CC} - 0.2$	V_{CC}	–			$I_O = -100$ µA
	3.0		$V_{CC} - 0.1$	–	–			$I_O = -24$ mA
LOW level output voltage	2.7	V_{OL}	–	–	0.40	V	V_{IH} or V_{IL}	$I_O = 12$ mA
	3.0		–	–	0.20			$I_O = 100$ µA
	3.0		–	–	0.55			$I_O = 24$ mA
Input leakage current	3.6	I_I	–	±0.1	±5	µA	5.5 V or GND	for control pins only
Input leakage current	3.6	I_I	–	±0.1	±5	µA	V_{CC} or GND	for data inputs only
Input current for common I/O pins	3.6	I_{IHZ}/I_{ILZ}	–	±0.1	±15	µA	V_{CC} or GND	
3-state OFF-state current	3.6	I_{OZ}	–	0.1	±10	µA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND
Quiescent supply current	3.6	I_{CC}	–	0.2	40	µA	V_{CC} or GND	$I_O = 0$
Additional quiescent sypply current per control pin	2.7 .. 3.6	ΔI_{CC}	–	5	500	µA	$V_{CC} - 0.6$ V	$I_O = 0$
Additional quiescent sypply current per data I/O pin	2.7 .. 3.6	ΔI_{CC}	–	150	750	µA	$V_{CC} - 0.6$ V	$I_O = 0$
Bushold LOW sustaining current	3.0	I_{BHL}	75	–	–	µA	0.8 V	for data inputs only[2]
Bushold HIGH sustaining current	3.0	I_{BHH}	−75	–	–	µA	2.0 V	for data inputs only[2]
Bushold LOW overdrive current	3.6	I_{BHLO}	450	–	–	µA		for data inputs only[2]
Bushold HIGH overdrive current	3.6	I_{BHHO}	−450	–	–	µA		for data inputs only[2]

Notes:

1. All typical values are measured at $V_{CC} = 3.3$ V and $T_{amb} = 25$°C.
2. Control inputs do not have a bushold circuit.

Family ratings for the HLL series

Limiting values in accordance with the Absolute Maximum System (IEC 134), (notes 1 and 2)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+4.6	V
DC input diode current	$V_I < 0$	I_{IK}	–	−50	mA
DC input voltage	note 2	V_I	−0.5	+5.5	V
DC input voltage range for I/Os		$V_{I/O}$		V_{CC} +0.5	V
DC output diode current	$V_O > V_{CC}$ or $V_O < 0$	I_{OK}	–	±75	mA
DC output voltage	note 2	V_O	−0.5	V_{CC} +0.5	V
DC output source or sink current	V_O = 0 to V_{CC}	I_O	–	±70	mA
DC V_{CC} or GND current		I_{CC}; I_{GND}	–	100	mA
Storage temperature range		T_{stg}	−60	+150	°C
Power dissipation per package	see data handbook	–			

Notes:

1. Stresses beyond those listed may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those under 'recommended operating conditions' is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.
2. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

Recommended operating conditions for the HLL series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	typ.	max.	unit	conditions
DC supply voltage range (for max. speed performance)	V_{CC}	3.0	3.6	V	
DC supply voltage (for low-voltage applications)	V_{CC}	1.2	3.6	V	
DC input voltage range	V_I	0	5.5	V	
DC input voltage range for I/Os	$V_{I/O}$	0	V_{CC}	V	
DC output voltage range	V_O	0	V_{CC}	V	
Operating ambient temperature range in free air	T_{amb}	−40	+85	°C	see AC and DC characteristics per device
Input rise and fall times	t_r; t_f	– –	20 50	ns ns	V_{CC} = 3.6 V V_{CC} = 1.2 V

DC characteristics for the HLL series

Over recommended operation conditions
Voltages are referenced to GND (ground = 0 V)

	V_{CC}		T_{amb} (°C)						conditions	
			+25			−40 to +85				
parameter	V	symbol	min.	typ.	max.	min.	max.	unit	V_I	other
HIGH level input voltage	3.6	V_{IH}	–	–	–	2.0	–	V		
LOW level input voltage	3.0	V_{IL}	–	–	–	–	0.8	V		
Hysteresis (all inputs)	3.0 .. 3.6	V_H	–	0.25	–	–	–	V		
HIGH level output voltage	3.0	V_{OH}	$V_{CC}-0.2$ $V_{CC}-0.4$	V_{CC} –	– – –	$V_{CC}-0.2$ $V_{CC}-0.4$	– –	V V	V_{IH} or V_{IL}	I_O = 100 μA I_O = −24 mA
LOW level output voltage	3.0	V_{OL}	– –	– –	0.2 0.4	– –	0.2 0.4	V V	V_{IH} or V_{IL}	I_O = 100 μA I_O = 24 mA
Input leakage current	3.6	I_I	–	–	–	–	±5	μA	V_{CC} or GND	
3-state output OFF-state current	3.6	I_{OZ}	–	–	–	–	10	μA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND
Quiescent supply current	3.6	I_{CC}	–	–	8.0	–	80	μA	V_{CC} or GND	I_O = 0

Family ratings for the ALVC series

Limiting values in accordance with the Absolute Maximum System (IEC 134), (notes 1 and 2)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	–0.5	+4.6	V
DC input diode current	$V_I < 0$	I_{IK}	–	–50	mA
DC input voltage	for control pins only; note 2	V_I	–0.5	+5.5	V
DC input voltage	for data pins only; note 2	V_I	–0.5	V_{CC} + 0.5	V
DC output diode current	$V_O > V_{CC}$ or $V_O < 0$	I_{OK}	–	±50	mA
DC output voltage	note 2	V_O	–0.5	V_{CC} + 0.5	V
DC output source or sink current	V_O = 0 to V_{CC}	I_O	–	±50	mA
DC V_{CC} or GND current		I_{CC}; I_{GND}	–	100	mA
Storage temperature range		T_{stg}	–60	+150	°C
Power dissipation per package	see data handbook	P_{tot}			

Notes:

1. Stresses beyond those listed may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those under 'recommended operating conditions' is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.
2. The input and output voltage ratings may be exceeded if the input and output current ratings are observed.

Recommended operating conditions for the ALVC series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	typ.	max.	unit	conditions
DC supply voltage range (for max. speed performance)	V_{CC}	3.0	3.6	V	
DC supply voltage (for low-voltage applications)	V_{CC}	1.2	3.6	V	
DC input voltage range	V_I	0	5.5	V	
DC input voltage range for I/Os	$V_{I/O}$	0	V_{CC}	V	
DC output voltage range	V_O	0	V_{CC}	V	
Operating ambient temperature range in free air	T_{amb}	–40	+85	°C	see AC and DC characteristics per device
Input rise and fall times	t_r; t_f	– –	20 50	ns ns	V_{CC} = 3.6 V V_{CC} = 1.2 V

DC family characteristics for the ALVC series

Over recommended operating conditions
Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC} V	symbol	T_{amb} (°C) −40 to +85			unit	conditions	
			min.	typ.[1]	max.		V_I	other
HIGH level input voltage	1.2	V_{IH}	V_{CC}	–	–	V		
	2.7 .. 3.6		2.0	–	–			
LOW level input voltage	1.2	V_{IL}	–	–	GND	V		
	2.7 .. 3.6		–	–	0.8			
HIGH level output voltage	2.7	V_{OH}	$V_{CC} - 0.5$	–	–	V	V_{IH} or V_{IL}	$I_O = -12$ mA
	3.0		$V_{CC} - 0.2$	V_{CC}	–			$I_O = -100$ µA
	3.0		$V_{CC} - 0.1$	–	–			$I_O = -24$ mA
LOW level output voltage	2.7	V_{OL}	–	–	0.40	V	V_{IH} or V_{IL}	$I_O = 12$ mA
	3.0		–	–	0.20			$I_O = 100$ µA
	3.0		–	–	0.55			$I_O = 24$ mA
Input leakage current	3.6	I_I	–	±0.1	±5	µA	5.5 V or GND	for control pins only
Input leakage current	3.6	I_I	–	±0.1	±5	µA	V_{CC} or GND	for data inputs only
Input current for common I/O pins	3.6	I_{IHZ}/I_{ILZ}	–	±0.1	±15	µA	V_{CC} or GND	
3-state OFF-state current	3.6	I_{OZ}	–	0.1	±10	µA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND
Quiescent supply current	3.6	I_{CC}	–	0.2	40	µA	V_{CC} or GND	$I_O = 0$
additional quiescent sypply current per control pin	2.7 .. 3.6	ΔI_{CC}	–	5	500	µA	V_{CC} – 0.6 V	$I_O = 0$
additional quiescent sypply current per data I/O pin	2.7 .. 3.6	ΔI_{CC}	–	150	750	µA	V_{CC} – 0.6 V	$I_O = 0$
Bushold LOW sustaining current	3.0	I_{BHL}	75	–	–	µA	0.8 V	for data inputs only[2]
Bushold HIGH sustaining current	3.0	I_{BHH}	−75	–	–	µA	2.0 V	for data inputs only[2]
Bushold LOW overdrive current	3.6	I_{BHLO}	450	–	–	µA		for data inputs only[2]
Bushold HIGH overdrive current	3.6	I_{BHHO}	−450	–	–	µA		for data inputs only[2]

Notes:

1. All typical values are measured at $V_{CC} = 3.3$ V and $T_{amb} = 25$°C.
2. Control inputs do not have a bushold circuit.

Family ratings for the LVT series

Limiting values in accordance with the Absolute Maximum System (IEC 134), (notes 1 and 2)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+4.6	V
DC input diode current	$V_I < 0$	I_{IK}	–	−50	mA
DC input voltage	note 3	V_I	−0.5	7	V
DC output diode current	$V_O < 0$	I_{OK}	–	−50	mA
DC output voltage	output in HIGH or OFF state; note 3	V_O	−0.5	7	V
DC output source or sink current	output in LOW state output in HIGH state	I_O	–	128 −64	mA
Storage temperature range		T_{stg}	−65	+150	°C

Notes:

1. Stresses beyond those listed may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those under 'recommended operating conditions' is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.
2. The temperature capability of a high-performance integrated circuit in conjunction with thermal environment can create junction temperatures which are detrimental to reliability. The maximum junction temperature should not exceed 150°C.
3. The input and output negative voltage ratings may be exceeded if the input and output current ratings are observed.

Recommended operating conditions for the LVT series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	typ.	max.	unit	conditions
DC supply voltage	V_{CC}	2.7	3.6	V	
DC input voltage	V_I	0	5.5	V	
HIGH level input voltage	V_{IH}	2.0	–	V	
LOW level input voltage	V_{IL}	–	0.8	V	
HIGH level output current	I_{OH}	–	−32	mA	
LOW level output current	I_{OL}	–	32	mA	
LOW level output current	I_{OL}	0	64	mA	current duty cycle ≤50%, f ≥1 kHz
Input transition rise or fall rate, outputs enabled	$\Delta t/\Delta V$	–	10	ns/V	
Operating ambient temperature range in free air	T_{amb}	−40	+85	°C	

DC family characteristics for the LVT series

Over recommended operating conditions
Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC} V	symbol	T_{amb} (°C) −40 to +85			unit	conditions	
			min.	typ.[1]	max.		V_I	other
Input clamping voltage	2.7	V_{IK}	–	–	1.2	V		I_{IK} = −18 mA
HIGH level output voltage	2.7	V_{OH}	V_{CC} – 0.2	–	–	V		I_{OH} = −100 μA
	2.7		2.4	–	–			I_{OH} = −8 mA
	3.0		2.0	–	–			I_{OH} = −32 mA
LOW level output voltage	2.7	V_{OL}	–	–	0.2	V		I_{OL} = 100 μA
	2.7		–	–	0.5			I_{OL} = 24 mA
	3.0		–	–	0.4			I_{OL} = 16 mA
	3.0		–	–	0.5			I_{OL} = 32 mA
	3.0		–	–	0.55			I_{OL} = 64 mA
Power-up output LOW voltage[5]	3.6	V_{RST}	–	–	0.55	V	V_{CC} or GND	I_O = 1 mA
Input leakage current								
all pins	0 or 3.6	I_I	–	–	10	μA	5.5 V	
control pins	3.6		–	–	±1		V_{CC} or GND	
I/O pins[4]	3.6		–	–	10		V_{CC}	
I/O pins[4]	3.6		–	–	20		5.5	
data pins[4]	3.6		–	–	1		V_{CC}	
data pins[4]	3.6		–	–	–5		0 V	
Output off current	0	I_{OFF}	–	–	±100	μA		V_I or V_O = 0 to 4.5 V
Bus hold current A or B outputs	3.0	I_{HOLD}	75	–	–	μA	0.8 V	
	3.0		–75	–	–		2.0 V	
Current into an output in the HIGH state when $V_O > V_{CC}$	3.0	I_{EX}	–	–	125	μA		V_O = 5.5 V
Quiescent supply current	3.6	I_{CCH}	–	0.13	0.19	mA	V_{CC} or GND	I_O = 0
Quiescent sypply current	3.6	I_{CCL}	–	3	12	mA	V_{CC} or GND	I_O = 0
Quiescent sypply current	3.6	I_{CCZ}	–	0.13	0.19	mA	V_{CC} or GND	I_O = 0
Additional supply current per input pin[2]	3.0 .. 3.6	ΔI_{CC}	–	–	200	μA		one input at V_{CC} - 0.6 V; other inputs at V_{CC} or GND
Power-up/down 3-state output current[3]	≤1.2	$I_{PU/PD}$	–	–	±100	μA	V_{CC} or GND	V_O = 0.5 V to V_{CC}; OE = don't care
Input capacitance		C_I	–	4	–	pF	0 or 3 V	
Output capacitance		C_O	–	10	–	pF	0 0r 3 V	

Notes:
1. All typical values are measured at V_{CC} = 3.3 V and T_{amb} = 25°C.
2. This is the increase in supply current for each input at the specified voltage level other than V_{CC} or GND.
3. This parameter is valid for any V_{CC} between 0 V and 1.2 V with a transition time of up to 10 ms. From V_{CC} = 1.2 V to V_{CC} = 3.3 V, a transition time of 100 μs is permitted. This parameter is valid at T_{amb} = 25°C.
4. Unused pins at V_{CC} or GND.
5. This applies to parts with storage cells. For valid results, data must not be loaded in the flip-flops (or latches) after applying the power.

Family ratings for the LVT16 series

Limiting values in accordance with the Absolute Maximum System (IEC 134), (notes 1 and 2)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	–0.5	+4.6	V
DC input diode current	$V_I < 0$	I_{IK}	–	–50	mA
DC input voltage	note 3	V_I	–0.5	7	V
DC output diode current	$V_O < 0$	I_{OK}	–	–50	mA
DC output voltage	output in HIGH or OFF state; note 3	V_O	–0.5	7	V
DC output source or sink current	output in LOW state output in HIGH state	I_O	–	128 –64	mA
Storage temperature range		T_{stg}	–65	+150	°C

Notes:

1. Stresses beyond those listed may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those under 'recommended operating conditions' is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.
2. The temperature capability of a high-performance integrated circuit in conjunction with thermal environment can create junction temperatures which are detrimental to reliability. The maximum junction temperature should not exceed 150°C.
3. The input and output negative voltage ratings may be exceeded if the input and output current ratings are observed.

3

Recommended operating conditions for the LVT16 series

Voltages are referenced to GND (ground = 0V)

parameter	symbol	typ.	max.	unit	conditions
DC supply voltage	V_{CC}	2.7	3.6	V	
DC input voltage	V_I	0	5.5	V	
HIGH level input voltage	V_{IH}	2.0	–	V	
LOW level input voltage	V_{IL}	–	0.8	V	
HIGH level output current	I_{OH}	–	–32	mA	
LOW level output current	I_{OL}	–	32	mA	
LOW level output current	I_{OL}	0	64	mA	current duty cycle ≤50%, f ≥1 kHz
Input transition rise or fall rate, outputs enabled	$\Delta t/\Delta V$	–	10	ns/V	
Operating ambient temperature range in free air	T_{amb}	–40	+85	°C	

DC family characteristics for the LVT16 series

Over recommended operating conditions
Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C) -40 to +85				conditions	
parameter	V_{CC} V	symbol	min.	typ.[1]	max.	unit	V_I	other
Input clamping voltage	2.7	V_{IK}	–	–	1.2	V		$I_{IK} = -18$ mA
HIGH level output voltage	2.7	V_{OH}	$V_{CC} - 0.2$	–	–	V		$I_{OH} = -100$ µA
	2.7		2.4	–	–			$I_{OH} = -8$ mA
	3.0		2.0	–	–			$I_{OH} = -32$ mA
LOW level output voltage	2.7	V_{OL}	–	–	0.2	V		$I_{OL} = 100$ µA
	2.7		–	–	0.5			$I_{OL} = 24$ mA
	3.0		–	–	0.4			$I_{OL} = 16$ mA
	3.0		–	–	0.5			$I_{OL} = 32$ mA
	3.0		–	–	0.55			$I_{OL} = 64$ mA
Power-up output LOW voltage[5]	3.6	V_{RST}	–	–	0.55	V	V_{CC} or GND	$I_O = 1$ mA
Input leakage current								
all pins	0 or 3.6	I_I	–	–	10	µA	5.5 V	
control pins	3.6		–	–	±1		V_{CC} or GND	
I/O pins[4]	3.6		–	–	10		V_{CC}	
I/O pins[4]	3.6		–	–	20		5.5	
data pins[4]	3.6		–	–	1		V_{CC}	
data pins[4]	3.6		–	–	–5		0 V	
Output off current	0	I_{OFF}	–	–	±100	µA		V_I or $V_O = 0$ to 4.5 V
Bus hold current A or B outputs	3.0	I_{HOLD}	75	–	–	µA	0.8 V	
	3.0		–75	–	–		2.0 V	
Current into an output in the HIGH state when $V_O > V_{CC}$	3.0	I_{EX}	–	–	125	µA		$V_O = 5.5$ V
Quiescent supply current	3.6	I_{CCH}	–	–	0.12	mA	V_{CC} or GND	$I_O = 0$
Quiescent sypply current	3.6	I_{CCL}	–	–	6	mA	V_{CC} or GND	$I_O = 0$
Quiescent sypply current	3.6	I_{CCZ}	–	–	0.12	mA	V_{CC} or GND	$I_O = 0$
Additional supply current per input pin[2]	3.0 .. 3.6	ΔI_{CC}	–	–	200	µA		one input at V_{CC} - 0.6 V; other inputs at V_{CC} or GND
Power-up/down 3-state output current[3]	≤1.2	$I_{PU/PD}$	–	–	±100	µA	V_{CC} or GND	$V_O = 0.5$ V to V_{CC}; OE = don't care
Input capacitance		C_I	–	4	–	pF	0 or 3 V	
Output capacitance		C_O	–	10	–	pF	0 0r 3 V	

Notes:

1. All typical values are measured at $V_{CC} = 3.3$ V and $T_{amb} = 25$°C.
2. This is the increase in supply current for each input at the specified voltage level other than V_{CC} or GND.
3. This parameter is valid for any V_{CC} between 0 V and 1.2 V with a transition time of up to 10 ms. From $V_{CC} = 1.2$ V to $V_{CC} = 3.3$ V, a transition time of 100 µs is permitted. This parameter is valid at $T_{amb} = 25$°C.
4. Unused pins at V_{CC} or GND.
5. This applies to parts with storage cells. For valid results, data must not be loaded in the flip-flops (or latches) after applying the power.

LOW-VOLTAGE SERIES

AND GATES

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
08	Quad 2-input AND gate	○	○				○	
11	Triple 3-input AND gate	○	○					

COMPLEX GATES

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
51	Dual 2-wide 2-input AND-OR-invert gate		○					

EXCLUSIVE-OR GATES

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
86	Quad 2-input EXCLUSIVE-OR gate	○	○					

NAND GATES

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
00	Quad 2-input NAND gate	○	○				○	
03	Quad 2-input NAND gate; open drain	○						
10	Tripe 3-input NAND gate	○	○				○	
20	Dual 4-input NAND gate	○	○				○	
30	8-input NAND gate		○					
38	Quad 2-input NAND buffer; open collector		○					
40	Dual 4-input NAND buffer		○					

NOR GATES

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
02	Quad 2-input NOR gate	○	○				○	
27	Triple 3-input NOR gate	○	○					

OR GATES

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
32	Quad 2-input OR gate	○	○				○	

INVERTERS

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
04	Hex inverter	○	○				○	
U04	Hex inverter (unbuffered)	○	○					

BUFFERS/LINE DRIVERS

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
125	Quad buffer/line driver; 3-state	○	○				○	
126	Quad buffer/line driver; 3-state	○	○				○	
240	Octal buffer/line driver; 3-state; inverting	○	○	○	○	○	○	
2240A	16-bit buffer/line drivers with 30 Ω termination resistors; 3-state; inverting							○
240A	16-bit buffer/line drivers; 3-state; inverting							○
241	Octal buffer/line driver; 3-state	○	○		○	○		
244	Octal buffer/line driver; 3-state	○	○	○	○	○		
2244	Octal 30 Ω terminated buffer/line driver; 3-state		○	○		○		
244A	Octal buffer/line driver; 3-state						○	
2244B	16-bit 30 Ω terminated buffer/line drivers; 3-state							○

LOGIC
Low-voltage series

INTEGRATED CIRCUITS GENERAL PURPOSE

LOW-VOLTAGE SERIES		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
244B	16-bit buffer/line drivers; 3-state							○
365	Hex buffer/line driver; 3-state	○						
367	Hex buffer/line driver; 3-state	○						
368	Hex inverter buffer/driver; 3-state	○						
540	Dual octal buffer/line driver; 3-state; inverting		○			○		
541	Octal buffer/line driver; 3-state	○	○			○		
541A	16-bit buffer/line driver; 3-state							○
827	10-bit buffer line driver; non-inverting; 3-state		○				○	
827A	20-bit buffer line driver; non-inverting; 3-state							○
COUNTERS								
161	Presettable synchronous 4-bit binary counter; asynchronous reset	○						
163	Presettable synchronous 4-bit binary counter; synchronous reset	○						
191	Presettable synchronous 4-bit binary up/down counter	○	○					
193	Presettable synchronous 4-bit binary up/down counter	○	○					
269	Presettable synchronous 8-bit bidirectional binary counter		○					
393	Dual 4-bit binary ripple counter	○						
579	Octal bidirectional binary counter; common I/O		○					
4020	14-stage binary ripple counter	○						
4040	12-stage binary ripple counter	○						
4060	14-stage binary ripple counter with oscillator	○						
DECODERS/DEMULTIPLEXERS								
138	3-to-8 line decoder/demultiplexer; inverting	○	○					
139	Dual 2-to-4 line decoder/demultiplexer	○	○					
154	4-to-16 line decoder/demultiplexer	○						
D-TYPE PLIP/FLOPS								
74	Dual D-type flip-flop with set and reset; pos.-edge trig.	○	○				○	
174	Hex D-type flip-flop with reset; positive-edge trigger	○						
175	Quad D-type flip-flop with reset; positive edge-trigger	○						
273	Octal D-type flip-flop with reset; positive edge-trigger	○	○				○	
273A	16-bit D-type flip-flop							○
373	Octal D-type transparent latch; 3-state	○	○	○	○	○	○	
373A	16-bit D-type transparant latch; 3-state							○
374	Octal D-type flip-flop; positive-edge trigger; 3-state	○	○	○	○	○	○	
374A	16-bit edge triggered D-type flip-flop; 3-state							○
377	Octal D-type flip-flop with data enable; pos.-edge trigger	○	○					
533	Octal D-type transparent latch; 3-state; inverting				○			
534	Octal D-type flip-flop; positive-edge trigger; 3-state; inv.				○		○	
573	Octal D-type transparent latch; 3-state	○	○				○	
574	Octal D-type flip-flop; positive-edge trigger; 3-state	○	○				○	
JK FLIP-FLOPS								
107	Dual JK flip-flop with reset; negative-edge trigger	○						
109	Dual JK flip-flop with set and reset; positive edge trigger	○	○					

LOW-VOLTAGE SERIES		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
LATCHES								
259	Octal addressable latch	○	○					
841	10-bit bus interface latch; non-inverting; 3-state		○				○	
841A	20-bit bus interface latch; non-inverting; 3-state							○
843	9-bit bus interface latch; 3-state						○	
MULTIPLEXERS/DEMULTIPLEXERS								
153	Dual 4-input multiplexer	○	○					
157	Quad 2-input multiplexer	○	○					
158	Quad 2-to-1 data selector/multiplexer; inverting		○					
251	8-input multiplexer; 3-state	○						
257	Quad 2-input multiplexer; 3-state	○	○					
258	Quad 2-to-1 data selector/multiplexer; inverting; 3-state		○					
4051	8-channel analog multiplexer/demultiplexer	○						
4052	Dual 4-channel analog multiplexer/demultiplexer	○						
4053	Triple 2 channel analog multiplexer/demultiplexer	○						
4067	16-channel analog multiplexer/demultiplexer	○						
MULTIVIBRATORS								
123	Dual retriggerable monostable multivibrator with reset	○						
REGISTERS								
164	Octal serial-in/parallel-out shift register	○						
165	Octal parallel in/serial out shift register	○						
595	Octal serial-in/serial-out shift register with output latches; 3-state	○						
821	10-bit bus interface register; non-inverting; 3-state		○				○	
821A	20-bit bus interface register; non-inverting; 3-state							○
821-1	10-bit bus interface register; non-inverting; 3-state						○	
823	9-bit bus interface register; non-inverting; 3-state		○				○	
823A	18-bit bus interface register; non-inverting; 3-state							○
825	Octal bus interface register		○					
4094	8-stage shift-and-store bus register	○						
SCHMITT TRIGGERS								
14	Hex inverting Schmitt trigger	○	○					
132	Quad 2-input NAND Schmitt trigger	○						
SWITCHES								
4066	Quad bilateral switches	○						
4316	Quad bilateral switches; seperate analog ground	○						

LOW-VOLTAGE SERIES

TRANSCEIVERS

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
245	Octal bus transceiver; 3-state	○	○	○	○	○	○	
245-1	Octal 30 Ω terminated transceiver with direction pin; 3-state						○	
245B	16-bit bus transceiver with direction pin; 3-state							○
2245	16-bit 30 Ω terminated transceiver with direction pin; 3-state					○	○	
2245B	16-bit 30 Ω terminated transceiver with direction pin; 3-state							○
470	16-bit registered transceiver; 3-state					○		
500	18-bit universal bus transceiver; 3-state					○		
500A	18-bit universal bus transceiver; 3-state							○
501	18-bit universal bus transceiver; 3-state					○		
501A	18-bit universal bus transceiver; 3-state							○
543	Octal registered transceiver; non-inverting; 3-state		○			○	○	
543-1	Octal registered transceiver; non-inverting; 3-state						○	
2543	Octal 30 Ω terminated registered transceiver; non-inverting; 3-state						○	
543A	16-bit registered transceiver; 3-state							○
544	Octal registered transceiver; inverting; 3-state		○				○	
600	18-bit universal bus transceiver; 3-state					○		
601	18-bit universal bus transceiver; 3-state					○		
620	Octal bus transceiver; inverting; 3-state		○		○		○	
623	Octal bus transceiver; non-inverting; 3-state		○		○	○	○	
640	Octal bus transceiver; 3-state; inverting		○		○		○	
646	Octal bus transceiver/register; 3-state		○		○	○	○	
646A	16-bit bus transceiver; 3-state							○
648	Octal bus transceiver/register; 3-state; inverting				○			
651	Octal transceiver/register; inverting; 3-state				○		○	
652	Octal registered bus transceiver		○		○	○	○	
652A	16-bit bus transceiver/registers; 3-state							○
899	16-bit latched transceiver; 3-state							○
952	Octal registered transceiver; 3-state				○	○		
952A	16-bit registered transceiver; 3-state							○
953	Octal registered transceiver; inverting; 3-state				○			
2952	8-bit transceiver; non-inverting; 3-state		○				○	

TRANSLATORS AND TRANSCEIVERS

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
4245	Octal dual supply translating transceiver; 3-state; 3V/5V level shifter		○			○		

SPECIAL FUNCTIONS

		LV	LVC	LVC16	HLL	ALVC	LVT	LVT16
4799	NiMH battery management circuit	○						

Note:
All ALVC, ALVC16 and LVT16 devices have double-byte, 18-, or 20-bit functionality.

HE4000B FAMILY SPECIFICATIONS

The LOCMOS HE4000B range is a fully buffered digital integrated circuit family which meets the Jedec-B specifications. The members of this family are plug-in replacements for the well-known CMOS 4000 and 14500 ranges.

The HE family has the same advantages as conventional CMOS circuits, plus the additional LOCMOS advantages.

Advantages of CMOS

- low power dissipation - typically 10 nW per gate (static)
- wide operating supply voltage range
- wide operating temperature ranges:
  −40 to +85 °C for standard temperature range (HEF)
  −55 to +125 °C for extended temperature range (HEC)
- high DC fan-out
- inputs and outputs are protected against electrostatic voltages

In addition to these, the **LOCMOS HE4000B** range has:

- buffered outputs on **all** circuits
- higher speed
- higher packing density — essential for MSI/LSI
- excellent noise immunity

Recommended supply voltage range 3 to 15 V.

LOCMOS means Local Oxidation Complementary MOS

Inputs and outputs are protected against electrostatic effects in a wide variety of device-handling situations. However, to be totally safe, handling precautions should be taken into account.

Type number designation

Type numbers have a suffix which signifies the type of package and burn-in option.

HEx4xxxxxxx complete type number which can be split as follows:

HEx 4xxx xx x x

B = burn-in

P = plastic DIL
T = plastic mini-pack (SO)
D = ceramic (cerdip) DIL
U = uncased chip
TS = shrink small SO (SSOP type II)*

B = buffered
UB = unbuffered
V = limited operating voltage

= device number (up to 5 digits)

F = T_{amb} −40 to +85 °C
C = T_{amb} −55 to +125 °C

* For selected types only

HE4000B FAMILY SPECIFICATIONS (cont.)

The HE family is designed with standardized output drive characteristics which, combined with relative intensitivity to output capacitance loading, simplify system design.

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Supply voltage range	V_{DD} −0,5 to +18 V
Voltage on any input	V_I −0,5 to (V_{DD} + 0,5) V
DC current into any input or output	±I max. 10 mA
Power dissipation per package:	
HEF (plastic and ceramic DIL)	
T_{amb} = −40 to +70 °C	P_{tot} max. 500 mW
T_{amb} = +70 to +85 °C	derate linearly by 8 mW/K
HEF (plastic SO mini-pack)	
T_{amb} = −40 to +70 °C	P_{tot} max. 400 mW
T_{amb} = +70 to +85 °C	derate linearly by 6 mW/K
HEC (ceramic DIL)	
T_{amb} = −55 to +70 °C	P_{tot} max. 500 mW
T_{amb} = +70 to +125 °C	derate linearly by 8 mW/K
Power dissipation per output	P max. 100 mW
Storage temperature range	T_{stg} −65 to +150 °C
Operating ambient temperature range	
HEF	T_{amb} −40 to +85 °C
HEC	T_{amb} −55 to +125 °C

DC family characteristics for HEF at V_{SS} = 0 V

		T_{amb} = −40 °C		T_{amb} = +25 °C		T_{amb} = +85 °C		V_{DD}	
parameter	symbol	min.	max.	min.	max.	min.	max.	V	conditions
Quiescent device current for gates	I_{DD} (µA)	–	1.0	–	1.0	–	7.5	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	2.0	–	2.0	–	15.0	10	
		–	4.0	–	4.0	–	30.0	15	
Quiescent device current for buffers and flip–flops	I_{DD} (µA)	–	4.0	–	4.0	–	30	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	8.0	–	8.0	–	60	10	
		–	16.0	–	16.0	–	120	15	
Quiescent device current for MSI	I_{DD} (µA)	–	20	–	20	–	150	5	all valid input combinations; $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	40	–	40	–	300	10	
		–	80	–	80	–	600	15	
Quiescent device current for LSI	I_{DD} (µA)	–	50	–	50	–	375	5	all valid input combinations $V_I = V_{SS}$ or V_{DD}; $I_O = 0$
		–	100	–	100	–	750	10	
		–	200	–	200	–	1500	15	
Output voltage LOW $\lvert I_O\rvert < 1$ µA	V_{OL} (V)	–	0.05	–	0.05	–	0.05	5	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	10	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	15	$V_I = V_{SS}$ or V_{DD}
Output voltage HIGH $\lvert I_O\rvert < 1$ µA	V_{OH} (V)	4.95	–	4.95	–	4.95	–	5	$V_I = V_{SS}$ or V_{DD}
		9.95	–	9.95	–	9.95	–	10	$V_I = V_{SS}$ or V_{DD}
		14.95	–	14.95	–	14.95	–	15	$V_I = V_{SS}$ or V_{DD}
Input voltage LOW $\lvert I_O\rvert < 1$ µA (buffered stages only)	V_{IL} (V)	–	1.5	–	1.5	–	1.5	5	V_O = 0.5 or 4.5V
		–	3.0	–	3.0	–	3.0	10	V_O = 1.0 or 9.0V
		–	4.0	–	4.0	–	4.0	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\lvert I_O\rvert < 1$ µA (buffered stages only)	V_{IH} (V)	3.5	–	3.5	–	3.5	–	5	V_O = 0.5 or 4.5V
		7.0	–	7.0	–	7.0	–	10	V_O = 1.0 or 9.0V
		11.0	–	11.0	–	11.0	–	15	V_O = 1.5 or 13.5V
Input voltage LOW $\lvert I_O\rvert < 1$ µA (unbuffered stages only)	V_{IL} (V)	–	1.0	–	1.0	–	1.0	5	V_O = 0.5 or 4.5V
		–	2.0	–	2.0	–	2.0	10	V_O = 1.0 or 9V
		–	2.5	–	2.5	–	2.5	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\lvert I_O\rvert < 1$ µA (unbuffered stages only)	V_{IH} (V)	4.0	–	4.0	–	4.0	–	5	V_O = 0.5 or 4.5V
		8.0	–	8.0	–	8.0	–	10	V_O = 1.0 or 9.0V
		12.5	–	12.5	–	12.5	–	15	V_O = 1.5 or 13.5V
Output (sink) current LOW	I_{OL} (mA)	0.52	–	0.44	–	0.36	–	5	V_O=0.4; V_I=0/5V
		1.3	–	1.1	–	0.9	–	10	V_O=0.5; V_I=0/10V
		3.6	–	3.0	–	2.4	–	15	V_O=1.5; V_I=0/15V
Output (source) current HIGH	$-I_{OH}$ (mA)	0.52	–	0.44	–	0.36	–	5	V_O=4.6; V_I=0/5V
		1.3	–	1.1	–	0.9	–	10	V_O=9.5; V_I=0/10V
		3.6	–	3.0	–	2.4	–	15	V_O=13.5; V_I=0/15V
Output (source) current (HIGH)	$-I_{OH}$ (mA)	1.7	–	1.4	–	1.1	–	5	V_O=2.5; V_I=0/5V
Input leakage current	$\pm I_{IN}$ (µA)	–	0.3	–	0.3	–	1.0	15	V_I = 0 or 15 V
3–state output leakage current HIGH	I_{OZH} (µA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{DD}
3–state output leakage current LOW	$-I_{OZL}$ (µA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{SS}
Input capacitance per unit load	C_I (pF)	–	–	–	7.5	–	–	–	digital inputs

DC family characteristics for HEC at V_{SS} = 0 V

		T_{amb} = −55 °C		T_{amb} = +25 °C		T_{amb} = +125 °C		V_{DD}	
parameter	symbol	min.	max.	min.	max.	min.	max.	V	conditions
Quiescent device current for gates	I_{DD} (μA)	–	0.25	–	0.25	–	7.5	5	all valid input
		–	0.5	–	0.5	–	15.0	10	combinations;
		–	1.0	–	1.0	–	30.0	15	$V_I = V_{SS}$ or V_{DD}; $I_O = 0$
Quiescent device current for buffers and flip–flops	I_{DD} (μA)	–	1.0	–	1.0	–	30	5	all valid input
		–	2.0	–	2.0	–	60	10	combinations;
		–	4.0	–	4.0	–	120	15	$V_I = V_{SS}$ or V_{DD}; $I_O = 0$
Quiescent device current for MSI	I_{DD} (μA)	–	5.0	–	5.0	–	150	5	all valid input
		–	10.0	–	10.0	–	300	10	combinations;
		–	20.0	–	20.0	–	600	15	$V_I = V_{SS}$ or V_{DD}; $I_O = 0$
Quiescent device current for LSI	I_{DD} (μA)	–	15.0	–	15.0	–	375	5	all valid input
		–	25.0	–	25.0	–	750	10	combinations
		–	50.0	–	50.0	–	1500	15	$V_I = V_{SS}$ or V_{DD}; $I_O = 0$
Output voltage LOW $\lvert I_O \rvert < 1$ μA	V_{OL} (V)	–	0.05	–	0.05	–	0.05	5	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	10	$V_I = V_{SS}$ or V_{DD}
		–	0.05	–	0.05	–	0.05	15	$V_I = V_{SS}$ or V_{DD}
Output voltage HIGH $\lvert I_O \rvert < 1$ μA	V_{OH} (V)	4.95	–	4.95	–	4.95	–	5	$V_I = V_{SS}$ or V_{DD}
		9.95	–	9.95	–	9.95	–	10	$V_I = V_{SS}$ or V_{DD}
		14.95	–	14.95	–	14.95	–	15	$V_I = V_{SS}$ or V_{DD}
Input voltage LOW $\lvert I_O \rvert < 1$ μA (buffered stages only)	V_{IL} (V)	–	1.5	–	1.5	–	1.5	5	V_O = 0.5 or 4.5V
		–	3.0	–	3.0	–	3.0	10	V_O = 1.0 or 9.0V
		–	4.0	–	4.0	–	4.0	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\lvert I_O \rvert < 1$ μA (buffered stages only)	V_{IH} (V)	3.5	–	3.5	–	3.5	–	5	V_O = 0.5 or 4.5V
		7.0	–	7.0	–	7.0	–	10	V_O = 1.0 or 9.0V
		11.0	–	11.0	–	11.0	–	15	V_O = 1.5 or 13.5V
Input voltage LOW $\lvert I_O \rvert < 1$ μA (unbuffered stages only)	V_{IL} (V)	–	1.0	–	1.0	–	1.0	5	V_O = 0.5 or 4.5V
		–	2.0	–	2.0	–	2.0	10	V_O = 1.0 or 9V
		–	2.5	–	2.5	–	2.5	15	V_O = 1.5 or 13.5V
Input voltage HIGH $\lvert I_O \rvert < 1$ μA (unbuffered stages only)	V_{IH} (V)	4.0	–	4.0	–	4.0	–	5	V_O = 0.5 or 4.5V
		8.0	–	8.0	–	8.0	–	10	V_O = 1.0 or 9.0V
		12.5	–	12.5	–	12.5	–	15	V_O = 1.5 or 13.5V
Output (sink) current LOW	I_{OL} (mA)	0.64	–	0.5	–	0.36	–	5	V_O=0.4; V_I=0/5V
		1.6	–	1.3	–	0.9	–	10	V_O=0.5; V_I=0/10V
		4.2	–	3.4	–	2.4	–	15	V_O=1.5; V_I=0/15V
Output (source) current HIGH	$-I_{OH}$ (mA)	0.64	–	0.5	–	0.36	–	5	V_O=4.6; V_I=0/5V
		1.6	–	1.3	–	0.9	–	10	V_O=9.5; V_I=0/10V
		4.2	–	3.4	–	2.4	–	15	V_O=13.5; V_I=0/15V
Output (source) current (HIGH)	$-I_{OH}$ (mA)	1.7	–	1.4	–	1.1	–	5	V_O=2.5; V_I=0/5V
Input leakage current	$\pm I_{IN}$ (μA)	–	0.3	–	0.3	–	1.0	15	V_I = 0 or 15 V
3–state output leakage current HIGH	I_{OZH} (μA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{DD}
3–state output leakage current LOW	$-I_{OZL}$ (μA)	–	1.6	–	1.6	–	12.0	15	output returned to V_{SS}
Input capacitance per unit load	C_I (pF)	–	–	–	7.5	–	–	–	digital inputs

HE4000B SERIES		HEF	HEC
ARITHMETIC FUNCTIONS			
4008B	4-bit binary full adder	○	
4531B	13-input parity checker/generator	○	
BUFFERS			
4007UB	dual complementary pair and inverter	○	○
4041B	quadruple true/complement buffer	○	
4049B	hex inverting buffers	○	○
4050B	hex non-inverting buffers	○	○
4502B	strobed hex inverter/buffer	○	
40097B	3-state hex non-inverting buffer	○	○
40098B	3-state hex inverting buffer	○	○
40240B	octuple buffers with 3-state outputs	○	
40244B	octal buffers with 3-state outputs	○	
COMPARATORS			
4585B	4-bit magnitude comparator	○	○
COUNTERS			
4017B	5-stage Johnson counter	○	○
4018B	presettable divide-by-n counter	○	
4020B	14-stage binary counter	○	○
4022B	4-stage divide-by-8 Johnson counter	○	
4024B	7-stage binary counter	○	○
4029B	synchronous up/down counter, binary/decade counter	○	
4040B	12-stage binary counter	○	○
4059B	programmable divide-by-n counter	○	
4060B	14-stage ripple-carry binary counter/divider and oscillator	○	
4510B	BCD up/down counter	○	○
4516B	binary up/down counter	○	
4518B	dual BCD counter	○	
4520B	dual binary counter	○	○
4521B	24-stage frequency divider	○	
4522B	programmable 4-bit BCD down counter	○	
4526B	programmable 4-bit binary down counter	○	
4534B	real time 5-decade counter	○	
4737B	quadruple static decade counter	○	
4737V	quadruple static decade counter	○	
4751V	universal divider	○	○
40160B	4-bit synchronous decade counter; asynchronous reset	○	
40161B	4-bit synchronous binary counter; asynchronous reset	○	
40162B	4-bit synchronous decade counter; synchronous reset	○	
40163B	4-bit synchronous binary counter; synchronous reset	○	
40192B	4-bit up/down decade counter	○	
40193B	4-bit up/down binary counter	○	
DECODERS/DEMULTIPLEXERS			
4028B	1-of-10 decoder	○	
4511B	BCD to 7-segment latch/decoder/driver	○	○
4514B	1-of-16 decoder/demultiplexer with input latches	○	
4515B	1-of-16 decoder/demultiplexer with input latches	○	
4543B	BCD to 7-segment latch/decoder/driver	○	
4555B	dual 1-of-4 decoder/demultiplexer	○	
4556B	dual 1-of-4 decoder/demultiplexer	○	○

HE4000B SERIES		HEF	HEC
DRIVERS			
4511B	BCD to 7-segment latch/decoder/driver	○	○
4543B	BCD to 7-segment latch/decoder/driver	○	
ENCODERS			
4532B	8-input priority encoder	○	
D-type FLIP-FLOPS			
4013B	dual D-type flip-flop	○	○
40174B	hex D-type flip-flop	○	○
40175B	quadruple D-type flip-flop	○	○
40374B	octal D-type flip-flop with 3-state outputs	○	
JK FLIP-FLOPS			
4027B	dual JK flip-flop	○	○
AND GATES			
4073B	triple 3-input AND gate	○	○
4081B	quadruple 2-input AND gate	○	○
4082B	dual 4-input AND gate	○	
Complex GATES			
4085B	dual 2-wide 2-input AND-OR-invert gate	○	
4086B	4-wide 2-input AND-OR-invert gate	○	
EXCLUSIVE-OR GATES			
4030B	quadruple EXCLUSIVE-OR gate	○	○
4070B	quadruple EXCLUSIVE-OR gate	○	○
EXCLUSIVE-NOR GATES			
4077B	quadruple EXCLUSIVE-NOR gate	○	
NAND GATES			
4011B	quadruple 2-input NAND gate	○	○
4011UB	quadruple 2-input NAND gate; unbuffered	○	
4012B	dual 4-input NAND gate	○	○
4023B	triple 3-input NAND gate	○	○
4068B	8-input NAND gate	○	○
NOR GATES			
4000B	dual 3-input NOR gate and inverter	○	
4001B	quadruple 2-input NOR gate	○	○
4001UB	quadruple 2-input NOR gate; unbuffered	○	
4002B	dual 4-input NOR gate	○	○
4025B	triple 3-input NOR gate	○	○
4078B	8-input NOR gate	○	
OR GATES			
4071B	quadruple 2-input OR gate	○	○
4072B	dual 4-input OR gate	○	
4075B	triple 3-input OR gate	○	
INVERTERS			
4007UB	dual complementary pair and inverter	○	○
4069UB	hex inverter	○	○
7069UB	hex inverter; open drain	○	

HE4000B SERIES		HEF	HEC
LATCHES			
4042B	quadruple D-latch	○	○
4043B	quadruple R/S latch with 3-state outputs	○	
4044B	quadruple R/S latch with 3-state outputs	○	
4508B	dual 4-bit latch	○	
4511B	BCD to 7-segment latch/decoder/driver	○	○
4543B	BCD to 7-segment latch/decoder/driver	○	
4724B	8-bit addressable latch	○	
40373B	octal transparent latch with 3-state output	○	
MEMORIES			
4505B	64-bit, 1-bit per word static read/write RAM	○	○
4720B	256-bit, 1-bit per word RAM	○	
4720V	256-bit, 1-bit per word RAM	○	
MULTIPLEXERS/DEMULTIPLEXERS			
4019B	quadruple 2-input multiplexer	○	○
4051B	8-channel analog multiplexer/demultiplexer	○	○
4052B	dual 4-channel analog multiplexer/demultiplexer	○	
4053B	triple 2-channel analog multiplexer/demultiplexer	○	
4067B	16-channel analog multiplexer/demultiplexer	○	
4512B	8-input multiplexer with 3-state output	○	○
4519B	quadruple 2-input multiplexer	○	○
4539B	dual 4-input multiplexer	○	○
MULTIVIBRATORS			
4047B	monostable/astable multivibrator	○	○
4528B	dual monostable multivibrator	○	○
4538B	dual precision monostable multivibrator	○	
4938B	dual precision monostable multivibrator	○	
REGISTERS			
4006B	18-stage static shift register	○	
4014B	8-bit static shift register	○	○
4015B	dual 4-bit static shift register	○	○
4021B	8-bit static shift register	○	
4031B	64-stage static shift register	○	
4035B	4-bit universal shift register	○	○
4076B	quadruple D-type register with 3-state outputs	○	
4094B	8-stage shift-and-store bus register	○	○
4517B	dual 64-bit static shift register	○	
4557B	1-to-64 bit variable length shift register	○	○
4731B	quadruple 64-bit static shift register	○	
4731V	quadruple 64-bit static shift register	○	
4794B	8-stage shift-and-store register LED driver	○	
4894B	8-stage shift-and-store register LED driver	○	
40194B	4-bit bidirectional universal shift register	○	○
40195B	4-bit universal shift register	○	○
SCHMITT TRIGGERS			
4093B	quadruple 2-input NAND Schmitt trigger	○	○
40106B	hex inverting Schmitt trigger	○	

HE4000B SERIES		HEF	HEC
SPECIAL FUNCTIONS			
4046B	phase-locked loop	○	
4104B	quadruple low-to-high voltage translator with 3-state outputs	○	
4527B	BCD rate multiplier	○	
4738V	IEC/IEEE bus interface	○	
4750V	frequency synthesizer	○	○
4752V	AC motor control circuit	○	
4754V	18-element bar graph LCD driver	○	
4755V	transceiver for serial data communication	○	
SWITCHES			
4016B	quadruple bilateral switches	○	○
4066B	quadruple bilateral switches	○	○
TIMING CIRCUITS			
4541B	programmable timer	○	○
4753B	universal timer module	○	
4753V	universal timer module	○	
TRANSCEIVERS			
40245B	octuple bus transceiver with 3-state outputs	○	

HCMOS FAMILY SPECIFICATIONS

General

These specifications cover the electrical ratings and characteristics that are common to the entire HCMOS family, unless otherwise specified in the data sheet of an individual device.

Introduction

The HCMOS family of logic ICs is manufactured using a self-aligning 3 µm polycrystalline silicon-gate CMOS process combined with local oxidation of silicon (LOCOS). HCMOS ICs have the low power consumption, high immunity to input noise and wide operating temperature range of earlier silicon-gate CMOS circuits together with the high-speed and drive capability of bipolar, low-power Schottky TTL (LSTTL). They are also immune to latch-up and all types are available in DIL packages and in space-saving SO packages.

Many HCMOS circuits are pin-compatible with existing 54/74 LSTTL and HE4000B CMOS logic ICs. HCT types are ideal replacements for LSTTL. HCT types can also interface between TTL and CMOS ICs.

Three types of HCMOS ICs are available:

74HC	CMOS input switching levels 30% V_{CC} and 70% V_{CC} (typical switching threshold 50% V_{CC}), supply voltage 2 to 6 V
74HCT	TTL input switching levels 0.8 V and 2 V (typical switching threshold 28% V_{CC}), supply voltage 5 V ±10%
74HCU	CMOS input switching levels 20% V_{CC} and 80% V_{CC} (typical switching threshold 50% V_{CC}), supply voltage 2 to 6 V; unbuffered to allow operation in the linear mode

The HCMOS family also includes several complex circuits for switching or multiplexing analog signals. These circuits have low crosstalk and feedthrough, and a very large frequency bandwidth. There are also FIFOs and PLLs in the HCMOS range, one of which, (HC/HCT297) is a fully digital type.

Handling MOS devices

Inputs and outputs are protected against electrostatic effects in a wide variety of device-handling situations. However, to be totally safe, it is desirable to take handling precautions into account.

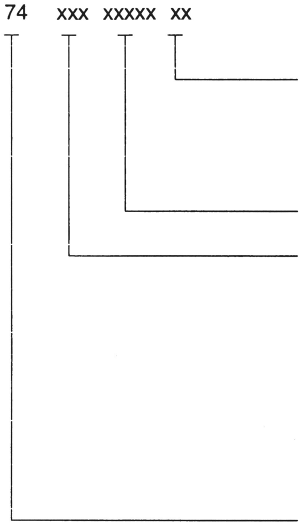
HCMOS features

- Very low power dissipation
- The switching levels of 74HC types are 30% and 70% of V_{CC}
- DC noise margin of 74HC types three times that of TTL ICs
- Logic output levels 0.1 V and V_{CC} – 0.1 V
- All types, except 74HCU are fully buffered
- Typical gate propogation delay of 8 ns
- Can operate up to 60 MHz (typical)
- Fanout capability of 10 LSTTL loads (4 mA); this is increased to 15 LSTTL loads (6 mA) for types with bus-driver outputs
- Wide supply voltage range
- Latch-up free
- Inputs protected against electrostatic discharge
- Functions and pinning identical to most popular LSTTL and CMOS HE4000B families
- Analog switching types operating up to 10 V
- Symmetrical output sourcing and sinking currents and equal output rise and fall times
- All types available in plastic SO, SSOP type II and TSSOP type I packages for surface mounting and plastic DIL packages
- Choice of operating temperature ranage: –40 to +85 °C or –40 to +125 °C
- Approved to JEDEC standard No. 7A

Type number designation

Basic family:

74xxxxxxxxxx complete type number which can be split as follows:



package code:
N = plastic DIL;
D = plastic mini-pack (SO)
NB = plastic DIL; burn-in
DB = plastic SSOP type II
PW = plastic TSSOP type I

= device number (up to 5 digits)

HC = CMOS input switching levels;
supply voltage range 2 to 6 V;
fully buffered

HCT = TTL input switching levels;
supply voltage range 5 V ±10%;
fully buffered

HCU = CMOS input switching levels;
supply voltage range 2 to 6 V;
unbuffered (single-stage devices)

74 = commercial (–40 °C to 85 °C)
and extended (–40 °C to +125 °C)
operating temperature range

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)
Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	−0.5	+7	V
DC input diode current	$V_I < -0.5$ V $V_I > V_{CC}+0.5$ V	$\pm I_{IK}$	–	20	mA
DC output diode current	$V_I < -0.5$ V $V_I > V_{CC}+0.5$ V	$\pm I_{OK}$	–	20	mA
DC output source or sink current	$-0.5\text{V} < V_O < V_{CC}+0.5$ V				mA
- standard outputs		$\pm I_O$	–	25	mA
- bus driver outputs		$\pm I_O$	–	35	
DC V_{CC} or GND current					
- standard outputs		$\pm I_{CC}$; $\pm I_{GND}$	–	50	mA
- bus driver outputs		$\pm I_{CC}$; $\pm I_{GND}$	–	70	mA
Storage temperature range		T_{stg}	−65	+150	°C
Power dissipation per package	for temperature range: −40 to +125 °C; 74HC/HCT/HCU				
Plastic DIL	above +70 °C derate linearly by 12 mW/K	P_{tot}	–	750	mW
Plastic mini-pack (SO)	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW
Plastic shrink small outline (SSOP type II)	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW
Plastic thin shrink small outline (TSSOP type I)	above +70 °C derate linearly by 8 mW/K	P_{tot}	–	500	mW

Recommended operating conditions; Voltages are referenced to GND (ground = 0V)

parameter	symbol	min.	typ.	max.	unit	conditions
DC supply voltage range						
74HC/HCU	V_{CC}	2.0	5.0	6.0	V	
74HCT	V_{CC}	4.5	5.0	5.5	V	
DC input voltage range	V_I	0	–	V_{CC}	V	
DC output voltage range	V_O	0	–	V_{CC}	V	
Operating ambient temperature range						
74HC/HCT/HCU	T_{amb}	−40	–	+85	°C	standard
74HC/HCT/HCU	T_{amb}	−40	–	+125	°C	extended
Input rise and fall times exept for Schmitt trigger inputs		–	–	1000	ns	V_{CC} = 2.0 V
	t_r; t_f	–	6.0	500	ns	V_{CC} = 4.5 V
		–	–	400	ns	V_{CC} = 6.0 V

DC family characteristics, 74HC

Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C)								conditions	
	V_{CC}		+25			−40 to +85		−40 to +125				
parameter	V	symbol	min.	typ.	max.	min.	max.	min.	max.	unit	V_I	other
HIGH level input voltage	2.0	V_{IH}	1.5	1.2	–	1.5	–	1.5	–	V		
	4.5		3.15	2.4	–	3.15	–	3.15	–	V		
	6.0		4.2	3.2	–	4.2	–	4.2	–	V		
LOW level input voltage	2.0	V_{IL}	–	0.8	0.5	–	0.5	–	0.5	V		
	4.5		–	2.1	1.35	–	1.35	–	1.35	V		
	6.0		–	2.8	1.8	–	1.8	–	1.8	V		
HIGH level output voltage all outputs	2.0	V_{OH}	1.9	2.0	–	1.9	–	1.9	–	V	V_{IH} or V_{IL}	$-I_O = 20\ \mu A$
	4.5		4.4	4.5	–	4.4	–	4.4	–	V		$-I_O = 20\ \mu A$
	6.0		5.9	6.0	–	5.9	–	5.9	–	V		$-I_O = 20\ \mu A$
HIGH level output voltage standard	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{IH} or V_{IL}	$-I_O = 4.0$ mA
	6.0		5.48	5.81	–	5.34	–	5.2	–	V		$-I_O = 5.2$ mA
HIGH level output voltage bus driver	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{IH} or V_{IL}	$-I_O = 6.0$ mA
	6.0		5.48	5.81	–	5.34	–	5.2	–	V		$-I_O = 7.8$ mA
LOW level output voltage all outputs	2.0	V_{OL}	–	0	0.1	–	0.1	–	0.1	V	V_{IH} or V_{IL}	$I_O = 20\ \mu A$
	4.5		–	0	0.1	–	0.1	–	0.1	V		$I_O = 20\ \mu A$
	6.0		–	0	0.1	–	0.1	–	0.1	V		$I_O = 20\ \mu A$
LOW level output voltage standard	4.5	V_{OL}	–	0.15	0.26	–	0.33	–	0.4	V	V_{IH} or V_{IL}	$I_O = 4.0$ mA
	6.0		–	0.16	0.26	–	0.33	–	0.4	V		$I_O = 5.2$ mA
LOW level output voltage bus driver	4.5	V_{OL}	–	0.15	0.26	–	0.33	–	0.4	V	V_{IH} or V_{IL}	$I_O = 6.0$ mA
	6.0		–	0.16	0.26	–	0.33	–	0.4	V		$I_O = 7.8$ mA
Input leakage current	6.0	$\pm I_I$	–	–	0.1	–	1.0	–	1.0	μA	V_{CC} or GND	
3-state OFF-state current	6.0	$\pm I_{OZ}$	–	–	0.5	–	5.0	–	10.0	μA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND;
Quiescent supply current												
SSI	6.0	I_{CC}	–	–	2	–	20	–	40	μA	V_{CC} or GND	$I_O = 0$
flip-flops	6.0	I_{CC}	–	–	4	–	40	–	80	μA		$I_O = 0$
MSI	6.0	I_{CC}	–	–	8	–	80	–	160	μA		$I_O = 0$
LSI	6.0	I_{CC}	–	–	50	–	500	–	1000	μA		$I_O = 0$

DC family characteristics, 74HCU

Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C)									
	V_{CC}		+25			–40 to +85		–40 to +125			conditions	
parameter	V	symbol	min.	typ.	max.	min.	max.	min.	max.	unit	V_I	other
HIGH level input voltage	2.0	V_{IH}	1.7	1.4	–	1.7	–	1.7	–	V		
	4.5		3.6	2.6	–	3.6	–	3.6	–	V		
	6.0		4.8	3.4	–	4.8	–	4.8	–	V		
LOW level input voltage	2.0	V_{IL}	–	0.6	0.3	–	0.3	–	0.3	V		
	4.5		–	1.9	0.9	–	0.9	–	0.9	V		
	6.0		–	2.6	1.2	–	1.2	–	1.2	V		
HIGH level output voltage	2.0	V_{OH}	1.8	2.0	–	1.8	–	1.8	–	V	V_{IH} or V_{IL}	$-I_O = 20\ \mu A$
	4.5		4.0	4.5	–	4.0	–	4.0	–	V		$-I_O = 20\ \mu A$
	6.0		5.5	6.0	–	5.5	–	5.5				$-I_O = 20\ \mu A$
HIGH level output voltage	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{CC} or GND	$-I_O = 4.0$ mA
	6.0		5.48	5.81	–	5.34	–	5.2	–	V		$-I_O = 5.2$ mA
LOW level output voltage	2.0	V_{OL}	–	0	0.2	–	0.2	–	0.2	V	V_{IH} or V_{IL}	$I_O = 20\ \mu A$
	4.5		–	0	0.5	–	0.5	–	0.5	V		$I_O = 20\ \mu A$
	6.0		–	0	0.5	–	0.5	–	0.5	V		$I_O = 20\ \mu A$
LOW level output voltage	4.5	V_{OL}	–	0.15	0.26	–	0.33	–	0.4	V	V_{CC} or GND	$I_O = 4.0$ mA
	6.0		–	0.16	0.26	–	0.33	–	0.4	V		$I_O = 5.2$ mA
Input leakage current	6.0	$\pm I_I$	–	–	0.1	–	1.0	–	1.0	μA	V_{CC} or GND	
Quiescent supply current **SSI**	6.0	I_{CC}	–	–	2.0	–	20.0	–	40.0	μA	V_{CC} or GND	$I_O = 0$

DC family characteristics, 74HCT

Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C)									
			+25			–40 to +85		–40 to +125			conditions	
parameter	V_{CC} V	symbol	min.	typ.	max.	min.	max.	min.	max.	unit	V_I	other
HIGH level input voltage	4.5 - 5.5	V_{IH}	2.0	1.6	–	2.0	–	2.0	–	V		
LOW level input voltage	4.5 - 5.5	V_{IL}	–	1.2	0.8	–	0.8	–	0.8	V		
HIGH level output voltage all outputs	4.5	V_{OH}	4.4	4.5	–	4.4	–	4.4	–	V	V_{IH} or V_{IL}	$-I_O = 20$ μA
HIGH level output voltage standard	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{IH} or V_{IL}	$-I_O = 4.0$ mA
HIGH level output voltage bus driver	4.5	V_{OH}	3.98	4.32	–	3.84	–	3.7	–	V	V_{IH} or V_{IL}	$-I_O = 6.0$ mA
LOW level output voltage all outputs	4.5	V_{OL}	–	0	0.1	–	0.1	–	0.1	V	V_{IH} or V_{IL}	$I_O = 20$ μA
LOW level output voltage standard	4.5	V_{OL}	–	0.15	0.26	–	0.33	–	0.4	V	V_{IH} or V_{IL}	$I_O = 4.0$ mA
LOW level output voltage bus driver	4.5	V_{OL}	–	0.16	0.26	–	0.33	–	0.4	V	V_{IH} or V_{IL}	$I_O = 6.0$ mA
Input leakage current	5.5	$\pm I_I$	–	–	0.1	–	1.0	–	1.0	μA	V_{CC} or GND	
3-state OFF-state current	5.5	$\pm I_{OZ}$	–	–	0.5	–	5.0	–	10.0	μA	V_{IH} or V_{IL}	$V_O = V_{CC}$ or GND; per input pin; other pins at V_{CC} or GND; $I_O = 0$
Quiescent supply current												
SSI	5.5	I_{CC}	–	–	2	–	20	–	40	μA	V_{CC}	$I_O = 0$
flip-flops	5.5	I_{CC}	–	–	4	–	40	–	80	μA	or	$I_O = 0$
MSI	5.5	I_{CC}	–	–	8	–	80	–	160	μA	GND	$I_O = 0$
LSI	5.5	I_{CC}	–	–	50	–	500	–	1000	μA		$I_O = 0$
A.Q.S.C. (see note below)	4.5 - 5.5	ΔI_{CC}	–	100	360	–	450	–	490	μA	V_{CC} –2.1V	other inputs at V_{CC} or GND; $I_O = 0$

Note:
Additional quiescent supply current (A.Q.S.C.) per input pin for unit load coefficient is 1. This A.Q.S.C. is determined by the ΔI_{CC} unit load, which has to be multiplied by the unit load coefficient as given in the individual data sheets. For dual supply systems, the theroretical worst-case ($V_I = 2.4$ V; $V_{CC} = 5.5$ V) specification is: $\Delta I_{CC} = 0.65$ mA (typical) and 1.8 mA (maximum) across temperature.

AC family characteristics

GND = 0 V; C_L = 50 pF; $t_r = t_f$ = 6 ns

74HC

parameter	V_{CC} V	symbol	T_{amb} (°C)							unit
			+25			−40 to +85		−40 to +125		
			min.	typ.	max.	min.	max.	min.	max.	
Output transition time standard outputs	2.0	t_{THL}/ t_{TLH}	–	19	75	–	95	–	110	ns
	4.5		–	7	15	–	19	–	22	ns
	6.0		–	6	13	–	16	–	19	ns
Output transition time bus driver outputs	2.0	t_{THL}/ T_{TLH}	–	14	60	–	75	–	90	ns
	4.5		–	5	12	–	15	–	18	ns
	6.0		–	4	10	–	13	–	15	ns

74HCU

parameter	V_{CC} V	symbol	T_{amb} (°C)							unit
			+25			−40 to +85		−40 to +125		
			min.	typ.	max.	min.	max.	min.	max.	
Output transition time	2.0	t_{THL}/ t_{TLH}	–	19	75	–	95	–	110	ns
	4.5		–	17	15	–	19	–	22	ns
	6.0		–	6	13	–	16	–	19	ns

74HCT

parameter	V_{CC} V	symbol	T_{amb} (°C)							unit
			+25			−40 to +85		−40 to +125		
			min.	typ.	max.	min.	max.	min.	max.	
Output transition time standard outputs	4.5	t_{THL}/ t_{TLH}	–	7	15	–	19	–	22	ns
Output transition time bus driver outputs	4.5	t_{THL}/ T_{TLH}	–	5	12	–	15	–	18	ns

HCMOS SERIES		HC	HCT
ARITHMETIC FUNCTIONS			
181	4-bit arithmetic logic unit	○	○
182	look-ahead carry generator	○	○
280	9-bit odd/even parity generator/checker	○	○
283	4-bit binary full adder with fast carry	○	○
583	4-bit full adder with fast carry	○	○
7080	16-bit even/odd parity generator/checker	○	○
BUFFERS/LINE DRIVERS			
125	quad buffer/line driver; 3-state; output enable active LOW	○	○
126	quad buffer/line driver; 3-state; output enable active HIGH	○	○
240	octal buffer/line driver; 3-state; inverting	○	○
241	octal buffer/line driver; 3-state; output enable active low or HIGH	○	○
244	octal buffer/line driver; 3-state; output enable active LOW	○	○
365	hex buffer/line driver; 3-state	○	○
366	hex buffer/line driver; 3-state; inverting	○	○
367	hex buffer/line driver; 3-state	○	○
368	hex buffer/line driver; 3-state; inverting	○	○
540	octal buffer/line driver; 3-state; inverting	○	○
541	octal buffer/line driver; 3-state	○	○
7540	octal Schmitt trigger buffer/line driver; 3-state; inverting	○	○
7541	octal Schmitt trigger buffer/line driver; 3-state	○	○
9014	nine-wide Schmitt trigger buffer/line driver; inverting	○	○
9015	nine-wide Schmitt trigger buffer/line driver	○	○
9114	nine-wide Schmitt trigger buffer; open drain output; inverting	○	○
9115	nine-wide Schmitt trigger buffer; open drain output	○	○
COMPARATORS			
85	4-bit magnitude comparator	○	○
688	8-bit magnitude comparator	○	○
COUNTERS			
93	4-bit binary ripple counter	○	○
160	presettable synchronous BCD decade counter; asynchronous reset	○	○
161	presettable synchronous 4-bit binary counter; asynchronous reset	○	○
162	presettable synchronous BCD decade counter; synchronous reset	○	○
163	presettable synchronous 4-bit binary counter; synchronous reset	○	○
190	presettable synchronous BCD decade up/down counter	○	○
191	presettable synchronous 4-bit binary up/down counter	○	○
192	presettable synchronous BCD decade up/down counter	○	○
193	presettable synchronous 4-bit binary up/down counter	○	○
390	dual decade ripple counter	○	○
393	dual 4-bit binary ripple counter	○	○
4017	Johnson decade counter with 10 decoded outputs	○	○
4020	14-stage binary ripple counter	○	○
4024	7-stage binary ripple counter	○	○
4040	12-stage binary ripple counter	○	○
4059	programmable divide-by-n counter	○	○
4060	14-stage binary ripple counter with oscillator	○	○
4510	BCD up/down counter	○	○
4516	binary up/down counter	○	○
4518	dual synchronous BCD counter	○	○
4520	dual synchronous 4-bit binary counter	○	○
6323A	programmable ripple counter with oscillator; 3-state	○	○
40102	8-bit synchronous BCD down counter	○	○
40103	8-bit synchronous binary down counter	○	○

HCMOS SERIES

DECODERS/DEMULTIPLEXERS

		HC	HCT
42	BCD to decimal decoder (1-of-10)	○	○
137	3-to-8 line decoder/demultiplexer with address latches	○	○
138	3-to-8 line decoder/demultiplexer; inverting	○	○
139	dual 2-to-4 line decoder/demultiplexer	○	○
154	4-to-16 line decoder/demultiplexer	○	○
237	3-to-8 line decoder/demultiplexer with address latches	○	○
238	3-to-8 line decoder/demultiplexer	○	○
4511	BCD to 7-segment latch/decoder/driver	○	○
4514	4-to-16 line decoder/demultiplexer with input latches	○	○
4515	4-to-16 line decoder/demultiplexer with input latches	○	○

DRIVERS

		HC	HCT
4511	BCD to 7-segment latch/decoder/driver	○	○
4543	BCD-to-7 segment latch/decoder/driver for LCDs	○	○

ENCODERS

		HC	HCT
147	10-to-4 line priority encoder	○	○

D-type FLIP-FLOPS

		HC	HCT
74	dual D-type flip-flop with set and reset; positive edge-trigger	○	○
173	quad D-type flip-flop; positive-edge trigger; 3-state	○	○
174	hex D-type flip-flop with reset; positive-edge trigger	○	○
175	quad D-type flip-flop with reset; positive edge-trigger	○	○
273	octal D-type flip-flop with reset; positive edge-trigger	○	○
373	octal D-type transparent latch; 3-state	○	○
374	octal D-type flip-flop; positive-edge trigger; 3-state	○	○
377	octal D-type flip-flop with data enable; positive-edge trigger	○	○
533	octal D-type transparent latch; 3-state; inverting	○	○
534	octal D-type flip-flop; positive-edge trigger; 3-state; inverting	○	○
563	octal D-type transparent latch; 3-state; inverting; bus-oriented pin-out	○	○
564	octal D-type flip-flop; positive-edge trigger; 3-state; inverting; bus-oriented pin-out	○	○
573	octal D-type transparent latch; 3-state; bus-oriented pin-out	○	○
574	octal D-type flip-flop; positive-edge trigger; 3-state; bus-oriented pin-out	○	○

JK FLIP-FLOPS

		HC	HCT
73	dual JK flip-flop with reset; negative-edge trigger; supply on centre pins	○	○
107	dual JK flip-flop with reset; negative-edge trigger	○	○
109	dual JK flip-flop with set and reset; positive-edge trigger	○	○
112	dual JK flip-flop with set and reset; negative edge-trigger	○	○

AND GATES

		HC	HCT
08	quad 2-input AND gate	○	○
11	triple 3-input AND gate	○	○
21	dual 4-input AND gate	○	○

Complex GATES

		HC	HCT
58	dual AND-OR gate	○	

EXCLUSIVE-OR GATES

		HC	HCT
86	quad 2-input EXCLUSIVE-OR gate	○	○

HCMOS SERIES		HC	HCT
EXCLUSIVE-NOR GATES			
7266	quad 2-input EXCLUSIVE-NOR gate	○	
NAND GATES			
00	quad 2-input NAND gate	○	○
03	quad 2-input NAND gate; open drain	○	○
10	triple 3-input NAND gate	○	○
20	dual 4-input NAND gate	○	○
30	8-input NAND gate	○	○
132	quad 2-input NAND Schmitt trigger	○	○
133	13-input NAND gate	○	○
NOR GATES			
02	quad 2-input NOR gate	○	○
27	triple 3-input NOR gate	○	○
4002	dual 4-input NOR gate	○	○
OR GATES			
32	quad 2-input OR gate	○	○
4075	triple 3-input OR gate	○	○
INVERTERS			
04	hex inverter (unbuffered)	○	○
LATCHES			
75	quad bistable transparent latch	○	○
259	8-bit addressable latch	○	○
354	8-input multiplexer/register with transparent latches; 3-state	○	○
LEVEL SHIFTERS			
4049	hex inverting HIGH-to-LOW level shifter	○	
4050	hex HIGH-to-LOW level shifter	○	
MULTIPLEXERS/DEMULTIPLEXERS			
151	8-input multiplexer	○	○
153	dual 4-input multiplexer	○	○
157	quad 2-input multiplexer	○	○
158	quad 2-input multiplexer; inverting	○	○
251	8-input multiplexer; 3-state	○	○
253	dual 4-input multiplexer; 3-state	○	○
257	quad 2-input multiplexer; 3-state	○	○
258	quad 2-input multiplexer; 3-state; inverting	○	○
354	8-input multiplexer/register with transparent latches; 3-state	○	○
356	8-input multiplexer/register; 3-state	○	○
4051	8-channel analog multiplexer/demultiplexer	○	○
4052	dual 4-channel analog multiplexer/demultiplexer	○	○
4053	triple 2-channel analog multiplexer/demultiplexer	○	○
4067	16-channel analog multiplexer/demultiplexer	○	○
4351	8-channel analog multiplexer/demultiplexer with latch	○	○
4352	dual 4-channel analog multiplexer/demultiplexer with latch	○	○
4353	triple 2-channel analog multiplexer/demultiplexer with latch	○	○

HCMOS SERIES		HC	HCT
MULTIVIBRATORS			
123	dual retriggerable monostable multivibrator with reset	○	○
221	dual non-retriggerable monostable multivibrator with reset	○	○
423	dual retriggerable monostable multivibrator with reset	○	○
4538	dual retriggerable precision monostable multivibrator	○	○
5555	programmable delay timer with oscillator	○	○
REGISTERS			
164	8-bit serial-in/parallel-out shift register	○	○
165	8-bit parallel-in/serial-out shift register	○	○
166	8-bit parallel-in/serial-out shift register; with reset	○	○
194	4-bit bidirectional universal shift register	○	○
195	4-bit parallel access shift register	○	○
299	8-bit universal shift register; 3-state	○	○
354	8-input multiplexer/register with transparent latches; 3-state	○	○
356	8-input multiplexer/register; 3-state	○	○
594	8-bit shift register with output register	○	○
595	8-bit serial-in/serial or parallel-out shift register with output latches; 3-state	○	○
597	8-bit shift register with input latches	○	○
670	4 x 4 register file; 3-state	○	○
4015	dual 4-bit serial-in/parallel-out shift register	○	○
4094	8-stage shift-and-store bus register	○	○
7030	9-bit x 64-word FIFO register; 3-state	○	○
7403	4-bit x 64-word FIFO register; 3-state	○	○
7404	5-bit x 64-word FIFO register; 3-state	○	○
7597	8-bit shift register with input latches	○	○
7731	quad 64-bit static shift register	○	○
40104	4-bit bidirectional universal shift register; 3-state	○	○
40105	4-bit x 16 word FIFO register	○	○
SCHMITT TRIGGERS			
14	hex inverting Schmitt trigger	○	○
132	quad 2-input NAND Schmitt trigger	○	○
7014	hex inverting Schmitt trigger	○	
7132	quad adjustable precision Schmitt trigger	○	○
7245	octal bus Schmitt trigger transceiver; 3-state	○	○
7540	octal Schmitt trigger buffer/line driver; 3-state; inverting	○	○
7541	octal Schmitt trigger buffer/line driver; 3-state	○	○
9014	nine-wide Schmitt trigger buffer/line driver; inverting	○	○
9015	nine-wide Schmitt trigger buffer/line driver	○	○
9114	nine-wide Schmitt trigger buffer; open drain output; inverting	○	○
9115	nine-wide Schmitt trigger buffer; open drain output	○	○
SPECIAL FUNCTIONS			
297	digital phase-locked-loop filter	○	○
4046A	phase-locked loop with VCO	○	○
7046A	PLL with lock detector	○	○
9046A	high-performance PLL		○
SWITCHES			
4016	quad bilateral switches (uncompensated switches)	○	○
4066	quad bilateral switches	○	○
4316	quad bilateral switches; separate analog ground	○	○

HCMOS SERIES		HC	HCT
TRANSCEIVERS			
242	quad bus transceiver; 3-state; inverting	○	○
243	quad bus transceiver; 3-state	○	○
245	octal bus transceiver; 3-state	○	○
640	octal bus transceiver; 3-state; inverting	○	○
643	octal bus transceiver; 3-state; true/inverting	○	○
646	octal bus transceiver/register; 3-state	○	○
648	octal bus transceiver/register; 3-state; inverting	○	○
652	octal registered bus transceiver	○	○
7245	octal bus Schmitt trigger transceiver; 3-state	○	○

ABT and MULTIBYTE FAMILY SPECIFICATIONS

General

These family specifications cover the common electrical ratings and characteristics of the entire 74ABT and MULTIBYTE families, unless otherwise specified in the individual device data sheet.

Introduction

The ABT, ABT16 and MULTIBYTE™ Advanced BiCMOS (QUBiC) families combine the low power dissipation and low noise of BiCMOS with the high output drive of our bipolar logic devices. The basic families of devices designated as 74ABTxxx/74ABT16xxx and MBxxxx will operate at BiCMOS input logic levels for high noise immunity, negligible quiescent supply and input current. They operate from a power supply of 4.5 to 5.5 V.

Handling BiCMOS devices

Inputs and outputs are protected against electrostatic effects in a wide variety of device-handling situations. However, to be totally safe, it is desirable to take appropriate handling precautions into account.

ABT features

- Fastest in industry apart from ECL devices
- Ideal for bus driver applications
- Very short propagation delays
- 64 mA sink current; 32 mA source current
- Supply voltage range: 5 V ±10%
- Standard TTL pin-out
- Latch-up protection exceeds 500 mA
- Wide operating temperature range: –40 to +85 °C
- Devices available in DIL and SO and SSOP packages
- Live insertion/extraction permitted

ABT16 features

- Multiple-byte functionality
- Multiple Vcc and GND pins minimize switching noise
- 64 mA sink current; 32 mA source current
- Devices available in SSOP and TSSOP packages
- Live insertion/extraction permitted
- BVS hold circuit on data inputs

MULTIBYTE features

- Double-byte functionality
- TTL compatible I/Os
- 50 µA I_{CCZ}
- +64/–32 mA output drive
- High performance, JEDEC registered 52-pin package
- Very low noise immunity
- Very low simultaneous switching propagation delay degradation
- Very low skew

Type number designation

Basic family:

74ABTxxxx

74 ABT xxxx x

= package code:
N = plastic DIL;
D = plastic mini-pack (SO)
DB = plastic SSOP type II
PW = plastic TSSOP type I

= 3-4 digits device number

ABT = advanced BiCMOS TTL process

74 = standard operating temperature range
−40 to +85 °C

74ABT16xxxx

74 ABT16 xxxx x

= package code:
DL = plastic SSOP
DGG = plastic TSSOP

= 3-4 digits device number

ABT = advanced BiCMOS TTL process

74 = standard operating temperature range
−40 to +85 °C

MBxxxxx

MB xxxx x

= package code:
BB = plastic quad flat pack (QFP) package

= 4 digits device number

MB = Designates MULTIBYTE products

Family ratings

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Voltages are referenced to GND (ground = 0 V)

parameter	conditions	symbol	min.	max.	unit
DC supply voltage		V_{CC}	–0.5	+7	V
DC input diode current	$V_I < 0$ V	$-I_{IK}$	–	18	mA
DC input voltage		V_I	–1.2	+7	V
DC output diode current	$V_O < 0$ V	$-I_{OK}$	–	50	mA
DC output voltage	output OFF or HIGH	V_O	–0.5	+5.5	V
DC output current	output LOW	I_O	–	128	mA
storage temperature range		T_{stg}	–65	+150	°C

Recommended operating conditions

Voltages are referenced to GND (ground = 0 V)

parameter	symbol	min.	max.	unit
DC supply voltage	V_{CC}	4.5	5.5	V
Input voltage	V_I	0	V_{CC}	V
HIGH level input voltage	V_{IH}	2.0	–	V
LOW level input voltage	V_{IL}	–	0.8	V
HIGH level output current	I_{OH}	–	32	mA
LOW level output current	I_{OL}	–	64	mA
Input transition rise or fall rate	$\Delta t/\Delta V$	0	5	ns/V
Operating ambient temperature range	T_{amb}	–40	+85	°C

ABT DC family characteristics

Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C)							
	V_{CC}		+25			−40 to +85			conditions	
parameter	(V)	symbol	min.	typ.	max.	min.	max.	unit	V_I	other
Input clamp voltage	4.5	V_{IK}	–	−0.9	−1.2	–	−1.2	V		$I_{IK} = -18$ mA
HIGH level output voltage	4.5 5.0 4.5	V_{OH}	2.5 3.0 2.0	2.9 3.4 2.4	– – –	2.5 3.0 2.0	– – –	V V V	V_{IH} or V_{IL}	$I_O = -3$ mA $I_O = -3$ mA $I_O = -32$ mA
LOW level output voltage	4.5	V_{OL}	–	0.42	0.55	–	0.55	V	V_{IH} or V_{IL}	$I_{OL} = 64$ mA
Power-up LOW voltage[3]	5.5	V_{RST}	–	0.13	0.55	–	0.55	V	5.5 V or 0 V	$I_O = 1$ mA
Input leakage current	5.5	I_I	–	±0.01	±0.1	–	±0.1	µA	GND or 5.5 V	
Power-off leakage current	0.0	I_{OFF}	–	±5.0	±100	–	±100	µA		V_O or $V_I \leq 4.5$ V
Power up/down 3-state output current[4]	2.1	$I_{PU/PD}$	–	±5.0	±50	–	±50	µA	V_{CC} or GND	V_{OE} = don't cace
3-state output HIGH current	5.5	I_{OZH}	–	5.0	50	–	50	µA	V_{IH} or V_{IL}	$V_O = 2.7$ V
3-state output LOW current	5.5	I_{OZL}	–	−5.0	−50	–	−50	µA	V_{IH} or V_{IL}	$V_O = 0.5$ V
Output HIGH leakage current	5.5	I_{CEX}	–	5.0	50	–	50	µA	V_{CC} or GND	$V_O = 2.5$ V
Output HIGH current[1]	5.5	I_O	−50	−65	−180	−50	−180	mA		$V_O = 2.5$ V
Quiescent supply current	5.5 5.5 5.5	I_{CCH} I_{CCL} I_{CCZ}	– – –	120 24 120	250 30 250	– – –	250 30 250	µA mA µA	V_{CC} or GND	outputs HIGH outputs LOW outputs 3-state
Additional supply current per input pin[2]	5.5	ΔI_{CC}	–	0.5	1.5	–	1.5	mA	V_{CC} or GND	outputs 3-state; one input at 3.4 V

NOTES:

1. Not more than one output should be tested at a time, and the duration of the test should not exceed one second.
2. This is the increase in supply current for each input at 3.4 V.
3. For valid test results, data must not be loaded into the flip-flop or latch after applying the power.
4. This parameter is valid for any V_{CC} between 0 V and 2.1 V, with a transition time of up to 10 ms. From $V_{CC} = 2.1$ V to $V_{CC} = 5$ V ±10%, a transition time of up to 100 µs is permitted. This note applies only to parts with the live insertion/extraction feature.

ABT16 DC family characteristics

Voltages are referenced to GND (ground = 0 V)

parameter	V_{CC} (V)	symbol	T_{amb} (°C)					unit	conditions	
			+25			−40 to +85				
			min.	typ.	max.	min.	max.		V_I	other
Input clamp voltage	4.5	V_{IK}	–	−0.9	−1.2	–	−1.2	V		$I_{IK} = -18$ mA
HIGH level output voltage	4.5 5.0 4.5	V_{OH}	2.5 3.0 2.0	2.9 3.4 2.4	– – –	2.5 3.0 2.0	– – –	V V V	V_{IH} or V_{IL}	$I_O = -3$ mA $I_O = -3$ mA $I_O = -32$ mA
LOW level output voltage	4.5	V_{OL}	–	0.42	0.55	–	0.55	V	V_{IH} or V_{IL}	$I_{OL} = 64$ mA
Power-up LOW voltage[3]	5.5	V_{RST}	–	0.13	0.55	–	0.55	V	5.5 V or 0 V	$I_O = 1$ mA
Input leakage current	5.5	I_I	–	±0.01	±0.1	–	±0.1	µA	GND or 5.5 V	
Power-off leakage current	0.0	I_{OFF}	–	±5.0	±100	–	±100	µA		V_O or $V_I \leq 4.5$ V
Power up/down 3-state output current[4]	2.1	$I_{PU/PD}$	–	±5.0	±50	–	±50	µA	V_{CC} or GND	V_{OE} = don't cace
3-state output HIGH current	5.5	I_{OZH}	–	5.0	50	–	50	µA	V_{IH} or V_{IL}	$V_O = 2.7$ V
3-state output LOW current	5.5	I_{OZL}	–	−5.0	−50	–	−50	µA	V_{IH} or V_{IL}	$V_O = 0.5$ V
Output HIGH leakage current	5.5	I_{CEX}	–	5.0	50	–	50	µA	V_{CC} or GND	$V_O = 2.5$ V
Output HIGH current[1]	5.5	I_O	−50	–	−200	−50	−200	mA		$V_O = 2.5$ V
Quiescent supply current	5.5 5.5 5.5	I_{CCH} I_{CCL} I_{CCZ}	– – –	– – –	2 41 2	– – –	2 41 2	mA mA mA	V_{CC} or GND	outputs HIGH outputs LOW outputs 3-state
Additional supply current per input pin[2]	5.5	ΔI_{CC}	–	–	1.5	–	1.5	mA	V_{CC} or GND	outputs 3-state; one input at 3.4 V

NOTES:

1. Not more than one output should be tested at a time, and the duration of the test should not exceed one second.
2. This is the increase in supply current for each input at 3.4 V.
3. For valid test results, data must not be loaded into the flip-flop or latch after applying the power.
4. This parameter is valid for any V_{CC} between 0 V and 2.1 V, with a transition time of up to 10 ms. From $V_{CC} = 2.1$ V to $V_{CC} = 5$ V ±10%, a transition time of up to 100 µs is permitted. This note applies only to parts with the live insertion/extraction feature.

MULTIBYTE DC family characteristics

Voltages are referenced to GND (ground = 0 V)

			T_{amb} (°C)							
	V_{CC}		+25			−40 to +85			conditions	
parameter	(V)	symbol	min.	typ.	max.	min.	max.	unit	V_I	other
Input clamp voltage	4.5	V_{IK}	–	−0.9	−1.2	–	−1.2	V		$I_{IK} = -18$ mA
HIGH level output voltage	4.5 5.0 4.5	V_{OH}	2.5 3.0 2.0	2.9 3.4 2.4	– – –	2.5 3.0 2.0	– – –	V V V	V_{IH} or V_{IL}	$I_O = -3$ mA $I_O = -3$ mA $I_O = -32$ mA
LOW level output voltage	4.5	V_{OL}	–	0.42	0.55	–	0.55	V	V_{IH} or V_{IL}	$I_{OL} = 64$ mA
Power-up LOW voltage[3]	5.5	V_{RST}	–	0.13	0.55	–	0.55	V	5.5 V or 0 V	$I_O = 1$ mA
Input leakage current	5.5	I_I	–	±0.01	±0.1	–	±0.1	µA	GND or 5.5 V	
Power-off leakage current	0.0	I_{OFF}	–	±5.0	±100	–	±100	µA		V_O or $V_I \leq 4.5$ V
Power up/down 3-state output current[4]	2.1	$I_{PU/PD}$	–	±5.0	±50	–	±50	µA	V_{CC} or GND	V_{OE} = don't cace
3-state output HIGH current	5.5	I_{OZH}	–	5.0	50	–	50	µA	V_{IH} or V_{IL}	$V_O = 2.7$ V
3-state output LOW current	5.5	I_{OZL}	–	−5.0	−50	–	−50	µA	V_{IH} or V_{IL}	$V_O = 0.5$ V
Output HIGH leakage current	5.5	I_{CEX}	–	5.0	50	–	50	µA	V_{CC} or GND	$V_O = 2.5$ V
Output HIGH current[1]	5.5	I_O	−50	–	−180	−50	−180	mA		$V_O = 2.5$ V
Quiescent supply current	5.5 5.5 5.5	I_{CCH} I_{CCL} I_{CCZ}	– – –	– – –	250 60 250	– – –	250 60 250	µA mA µA	V_{CC} or GND	outputs HIGH outputs LOW outputs 3-state
Additional supply current per input pin[2]	5.5	ΔI_{CC}	–	0.5	1.5	–	1.5	mA	V_{CC} or GND	outputs 3-state; one input at 3.4 V

NOTES:
1. Not more than one output should be tested at a time, and the duration of the test should not exceed one second.
2. This is the increase in supply current for each input at 3.4 V.
3. For valid test results, data must not be loaded into the flip-flop or latch after applying the power.
4. This parameter is valid for any V_{CC} between 0 V and 2.1 V, with a transition time of up to 10 ms. From $V_{CC} = 2.1$ V to $V_{CC} = 5$ V ±10%, a transition time of up to 100 µs is permitted. This note applies only to parts with the live insertion/extraction feature.

ABT/ABT16 & MULTIBYTE SERIES

GATES

		ABT	ABT16	MB
00	Quad 2-input NAND gate	○		
02	Quad 2-input NOR gate	○		
04	Hex inverter	○		
08	Quad 2-input AND gate	○		
10	Triple 3-input NAND gate	○		
20	Dual 4-input NAND gate	○		
32	Quad 2-input OR gate	○		

BUFFERS/LINE DRIVERS

		ABT	ABT16	MB
125	Quad buffer; 3-state	○		
126	Quad buffer; 3-state	○		
240	Octal inverting buffer; 3-state	○		
240	16-bit inverting buffer; 3-state		○	
240-1	Octal inverting buffer with 30 Ω termination resistors; 3-state	○		
240-1	16-bit inverting buffer; 3-state		○	
241	Octal buffer/line driver; 3-state	○		
241	16-bit buffer/line driver; 3-state		○	
244	Octal buffer/line driver; 3-state	○		
244A	16-bit buffer/line driver; 3-state		○	
244-1	Octal buffer/line driver with 30 Ω termination resistors; 3-state	○		
244-1	16-bit buffer/line driver with 30 Ω termination resistors; 3-state		○	
540	Octal buffer; inverting; 3-state	○		
541	Octal buffer/line driver; 3-state	○		
827	10-bit buffer/line driver; non-inverting; 3-state	○		
827A	20-bit buffer/line driver; non-inverting; 3-state		○	
2240	Octal inverting buffer with 30 Ω termination resistors; 3-state	○		
2240	16-bit inverting buffer; 3-state		○	○
2241	16-bit buffer/line driver; 3-state			○
2244	Octal buffer/line driver with 30 Ω termination resistors; 3-state	○		
2244	16-bit buffer/line driver with 30 Ω termination resistors; 3-state		○	
2244	16-bit buffer/line driver; 3-state			○
2541	16-bit buffer/line driver; 3-state			○
2827	20-bit buffer/line driver; non-inverting; 3-state			○

D-type FLIP-FLOPS/LATCHES

		ABT	ABT16	MB
74	Dual D-type edge triggered flip-flop	○		
273	16-bit D flip-flop		○	
273A	Octal D flip-flop	○		
273A	16-bit D flip-flop		○	
373A	Octal D-type transparent latch; 3-state	○		
373B	16-bit D-type transparent latch; 3-state		○	
374A	Octal D-type flip-flop; positive-edge trigger; 3-state	○		
374B	16-bit D-type flip-flop; positive-edge trigger; 3-state		○	
377	Octal D-type flip-flop with enable	○		
534	Octal D-type flip-flop; inverting; 3-state	○		
573A	Octal D-type transparent latch; 3-state	○		
574A	Octal D-type flip-flop; 3-state	○		
821	10-bit D-type flip-flop; positive-edge trigger; 3-state	○		
821A	20-bit D-type flip-flop; positive-edge trigger; 3-state		○	
823	9-bit D-type flip-flop with reset and enable; 3-state	○		
823A	18-bit D-type flip-flop with reset and enable; 3-state		○	
825A	16-bit bus interface register; non-inverting; 3-state		○	
841	10-bit bus interface latch; 3-state	○		
841A	20-bit bus interface latch; 3-state		○	
843	9-bit bus interface latch with set and reset; 3-state	○		
845	8-bit bus interface latch with set and reset; 3-state	○		
2373	16-bit D-type transparent latch; 3-state			○
2374	16-bit D-type flip-flop; positive-edge trigger; 3-state			○
2377	16-bit D-type flip-flop with enable			○

ABT/ABT16 & MULTIBYTE SERIES		ABT	ABT16	MB
2821	20-bit D-type flip-flop; positive-edge trigger; 3-state			○
2823	18-bit D-type flip-flop with reset and enable; 3-state			○
2841	20-bit bus interface latch; 3-state			○
5074	Synchronizing dual D-type flip-flop/clock driver	○		
TRANSCEIVERS				
245	Octal transceiver with direction pin; 3-state	○		
245B	16-bit transceiver with direction pin; 3-state		○	
245-1	Octal transceiver with direction pin; 3-state	○		
245A-1	16-bit transceiver with 30 Ω termination resistors and direction pin; 3-state		○	
500C	18-bit universal bus tranceiver; 3-state		○	
501A	18-bit universal bus tranceiver; 3-state		○	
543	16-bit latched transceiver with dual enable; 3-state		○	
543A	Octal latched transceiver with dual enable; 3-state	○		
2543	16-bit latched transceiver with dual enable and 30 Ω termination resistors; 3-state		○	
544	Octal latched transceiver with dual enable; inverting; 3-state	○		
620	Octal transceiver with dual enable; inverting; 3-state	○		
623	Octal transceiver with dual enable; non-inverting; 3-state	○		
640	Octal transceiver with direction pin; inverting; 3-state	○		
646A	Octal bus transceiver/register; 3-state	○		
646	16-bit bus transceiver/register; 3-state		○	
648	Octal bus transceiver/register; inverting; 3-state	○		
651	Octal bus transceiver/register; inverting; 3-state	○		
652A	Octal transceiver/register; non-inverting; 3-state	○		
652	16-bit transceiver/register; non-inverting; 3-state		○	
657	Octal transceiver with parity generator/checker; 3-state	○		
833	Octal transceiver with parity generator/checker; 3-state	○		
853	8-bit transceiver with 9-bit parity checker/generator and flag latch; 3-state	○		
861	10-bit bus transceiver; 3-state	○		
863	9-bit bus transceiver; 3-state	○		
899	9-bit dual latch transceiver with 8-bit parity generator/checker; 3-state	○		
899	16-bit dual latch transceiver with 8-bit parity generator/checker; 3-state		○	
952A	Dual octal registered transceiver		○	
1543	Dual octal latched transceiver with dual enable and clear; 3-state		○	
2052	16-bit registered transceiver; 3-state			○
2245	Octal transceiver with direction pin; 3-state	○		
2245	16-bit transceiver with direction pin; 3-state		○	○
2543	16-bit latched transceiver with dual enable; 3-state			○
2623	16-bit transceiver with dual enable; non-inverting; 3-state			○
2646	16-bit bus transceiver/register; 3-state			○
2652	16-bit transceiver/register; non-inverting; 3-state			○
2861	Dual 10-bit bus transceiver; 3-state			○
2952	Octal registered tranceiver; 3-state	○		
2953	Octal registered tranceiver; inverting; 3-state	○		
3205	10-bit BTL transceiver	○		

TTL FAMILY CHARACTERISTICS COMPARISON

Logic family	SSI gates propagation delay	flip-flops toggle rate	MSI ALU 4-bit add time
FAST TTL (F) 74F00 Series SSI and LSI FAST Series offers higher speeds than Schottky TTL and uses only 25% of the power.	3 ns at 4 mW	100 MHz	9 ns
ADVANCED LOW POWER SCHOTTKY (ALS) 74ALS00 Series SSI and MSI replaces LS with a 50% power saving and greater than twice the speed.	5 ns at 1 mW	60 MHz	12 ns

TTL SERIES		F	ALS
ARITHMETIC FUNCTIONS			
181	4-bit arithmetic logic unit	○	
182	look-ahead carry generator	○	
280A	9-bit odd/even parity generator/checker	○	
280B	9-bit odd/even parity generator/checker	○	
283	4-bit full adder with fast carry	○	
381	4-bit arithmetic logic unit	○	
382	4-bit arithmetic logic unit	○	
385	quad serial adder/subtractor	○	
BUFFERS/LINE DRIVERS			
06	hex inverter buffer/driver (open collector)	○	
07	hex buffer/line driver (open collector)	○	
125	quad buffer (3-state)	○	
126	quad buffer (3-state)	○	
240	octal inverter buffer (3-state)	○	
240A	octal inverter buffer (3-state)	○	○
240A-1	octal inverter buffer (3-state)		○
241	octal buffer (3-state)	○	
241A	octal buffer (3-state)	○	○
241A-1	octal buffer (3-state)		○
244	octal buffer (3-state)	○	
244A	octal buffer (3-state)	○	○
244A-1	octal buffer (3-state)		○
244B	octal buffer (3-state)	○	
365	hex buffer/driver (3-state)	○	
366	hex inverter buffer (3-state)	○	
367	hex buffer/driver (3-state)	○	
368	hex inverter buffer (3-state)	○	
455	octal buffer with parity generator checker	○	
456	octal buffer with parity generator checker	○	
540	octal buffer/line driver (3-state)	○	
541	octal non-inverting buffer/line driver (3-state)	○	
655A	octal inverting buffer with parity generator/checker	○	
656A	octal buffer with parity generator checker	○	
756	octal inverter buffer (open collector)	○	
757	octal buffer (open collector)	○	
760	octal buffer (open collector)	○	
827	10-bit buffer line driver, non-inverting (3-state)	○	
828	10-bit buffer line driver, inverting (3-state)	○	
1240	octal buffer; inverting (3-state); light load	○	
1241	octal buffer; non-inverting; (3-state); light load	○	
1244	octal buffer (3-state)	○	
2240	octal inverter buffer with 30 Ω termination network (3-state)	○	
2241	octal buffer with 30 Ω termination network (3-state)	○	
2244	octal buffer with 30 Ω termination network (3-state)	○	
COMPARATORS			
85	4-bit magnitude comparator	○	
521	8-bit identify comparator	○	
524	8-bit register comparator (open collector)	○	
COUNTERS			
161A	synchronous 4-bit binary counter	○	
161B	synchronous 4-bit binary counter		○
163A	synchronous 4-bit binary counter	○	
163B	synchronous 4-bit binary counter		○

TTL SERIES		F	ALS
169	synchronous 4-bit binary up/down counter	○	
191	presettable 4-bit binary up/down counter	○	○
193	presettable 4-bit binary up/down counter	○	○
269	8-bit binary counter	○	
393	dual 4-bit binary ripple counter	○	
569	4-bit binary up/down synchronous counter (3-state)	○	
579	8-bit binary up/down counter, common I/O (3-state)	○	
779	8-bit bidirectional binary counter (3-state)	○	
1779	8-bit bidirectional binary counter (3-state)	○	
DECODERS/DEMULTIPLEXERS			
138	3-line to 8-line decoder/demultiplexer	○	○
139	dual 2-line to 4-line decoder/demultiplexer	○	○
154	4-line to 16-line decoder/demultiplexer	○	
537	1-of-10 decoder (3-state)	○	
538	1-of-8 decoder (3-state)	○	
539	dual 1-of-4 decoder (3-state)	○	
DRIVERS			
804	hex 2-input NAND driver	○	
805	hex 2-input NOR driver	○	
808	hex 2-input AND driver	○	
832	hex 2-input OR driver	○	
1804	hex 2-input NAND driver	○	
1805	hex 2-input NOR driver	○	
1808	hex 2-input AND driver	○	
1832	hex 2-input OR driver	○	
3037	quad 2-input NAND, 30 Ohm transmission line driver	○	
3038	quad 2-input NAND, 30 Ohm transmission line driver; open col.	○	
3040	dual 4-input NAND, 30 Ohm transmission line driver	○	
5300	fiber optic LED driver	○	
5302	fiber optic dual LED/clock driver	○	
30240	octal 30 Ohm line driver with enable; inverting; open collector	○	
30244	octal 30 Ohm transmission-line/backplane driver	○	
ENCODERS			
148	8-line to 3-line priority encoder	○	
D-type FLIP-FLOPS			
74	dual D-type edge-triggered flip-flop	○	
74A	dual D-type edge-triggered flip-flop		○
173	quad D-type flip-flop (3-state)	○	
174	hex D-type flip-flop with reset	○	○
175	quad D-type edge-triggered flip-flop with reset	○	○
273	octal D-type flip-flop with reset	○	○
273A	octal D-type flip-flop with reset	○	
374	octal D-type flip-flop (3-state)	○	○
377	octal D-type flip-flop with clock enable	○	○
377A	octal D-type flip-flop with clock enable	○	
378	hex D-type flip-flop with clock enable	○	
379	quad D flip-flop with enable	○	
379A	quad D flip-flop with enable	○	
534	octal D-type flip-flop (3-state)	○	
564	octal D flip-flop (3-state) broadside pinout	○	
564A	octal D-type flip-flop; inverting (3-state)		○
574	octal D flip-flop (3-state) broadside pinout	○	

TTL SERIES		F	ALS
574A	octal D-type flip-flop (3-state); same as 'ALS374 with broadside pin-out		○
5074	synchronizing dual D-type flip-flop with metastable immune characteristics	○	
50728	cascaded synchronizing dual D-type flip-flop with metastable immune characteristics	○	
50729	synchronizing dual D-type flip-flop with edge-triggered set and reset and metastable immune characteristics	○	
JK FLIP-FLOPS			
109	dual JK positive-edge triggered flip-flop	○	
109A	dual JK positive-edge triggered flip-flop		○
112	dual JK negative-edge triggered flip-flop	○	
112A	dual JK negative-edge triggered flip-flop		○
113	dual JK positive-edge triggered flip-flop	○	
114	dual JK negative-edge triggered flip-flop	○	
50109	dual synchronizing JK flip-flop; positive-edge triggered with metastable immune characteristics	○	
AND GATES			
08	quad 2-input AND gate	○	○
11	triple 3-input AND gate	○	
11A	triple 3-input AND gate		○
Complex GATES			
51	dual 2-wide 2-input AND-OR-invert gate	○	
64	4-2-3-2-input AND-OR-invert gate	○	
EXCLUSIVE-OR GATES			
86	quad 2-input EXCLUSIVE-OR gate	○	○
NAND GATES			
00	quad 2-input NAND gate	○	
00A	quad 2-input NAND gate		○
10	triple 3-input NAND gate	○	
10A	triple 3-input NAND gate		○
20	dual 4-input NAND gate	○	
20A	dual 4-input NAND gate		○
30	8-input NAND gate	○	
30A	8-input NAND gate		○
37	quad 2-input NAND buffer	○	
38	quad 2-input NAND buffer (open collector)	○	
38A	quad 2-input NAND buffer (open collector)		○
40	dual 4-input NAND buffer	○	
132	quad 2-input NAND Schmitt trigger	○	
133	13-input NAND gate	○	
NOR GATES			
02	quad 2-input NOR gate	○	○
27	triple 3-input NOR gate	○	○
260	dual 5-input NOR gate	○	
OR GATES			
32	quad 2-input OR gate	○	○

TTL SERIES		F	ALS
INVERTERS			
04	hex inverter	●	
04B	hex inverter		●
LATCHES			
256	dual 4-bit addressable latch	●	
259	8-bit addressable latch	●	
373	octal transparent latch (3-state)	●	●
533	inverting octal D-type latch (3-state)	●	
563A	octal transparent latch; inverting (3-state)		●
573	octal transparent latch (3-state) broadside pinout	●	
573B	octal transparent latch (3-state); same as 'ALS373 with broadside pin-out		●
604	dual 8-bit register (3-state)	●	
841	10-bit bus interface latch; non-inverting (3-state)	●	
842	10-bit bus interface latch; inverting (3-state)	●	
843	9-bit bus interface latch; non-inverting (3-state)	●	
844	9-bit latch bus interface, inverting (3-state)	●	
845	8-bit bus interface latch; non-inverting (3-state)	●	
846	8-bit latch bus interface, inverting (3-state)	●	
1604	dual octal latch	●	
2373	octal transparant latch with 30 Ω termination resistors (3-state)	●	
MEMORIES			
189A	64-bit TTL bipolar RAM (16x4); inverting (3-state)	●	
219A	64-bit TTL bipolar RAM (16x4); non-inverting (3-state)	●	
410	register stack; 16x4 RAM; 3-state output register	●	
MULTIPLEXERS			
151	8-line to 1-line multiplexer		●
151A	8-line to 1-line multiplexer	●	
153	dual 4-line to 1-line multiplexer	●	●
157	quad 2-input data selector/multiplexer; non-inverting	●	●
157A	quad 2-input data selector/multiplexer; non-inverting	●	
158	quad 2-input data selector/multiplexer; inverting	●	●
158A	quad 2-input data selector/multiplexer; inverting	●	
251	8-line to 1-line multiplexer (3-state)		●
251A	8-line to 1-line multiplexer (3-state)	●	
253	dual 4-line to 1-line multiplexer (3-state)	●	●
257	quad 2-line to 1-line data selector/multiplexer (3-state)		●
257A	quad 2-line to 1-line data selector/multiplexer (3-state)	●	
258	quad 2-line to 1-line data selector/multiplexor (3-state)		●
258A	quad 2-line to 1-line data selector/multiplexer (3-state)	●	
353	dual 4-input multiplexer (3-state)	●	
711A	quintuple 2-input multiplexer (3-state)	●	
711-1	quintuple 2-input multiplexer with 30 Ohm series termination resistors (3-state)	●	
712A	quintuple 3-input multiplexer	●	
712-1	quintuple 3-input multiplexer with 30 Ohm series termination resistors	●	
723A	quad 3-input multiplexer (3-state)	●	
723-1	quad 3-input multiplexer with 30 Ohm series termination resistors (3-state)	●	
725A	quad 4-input multiplexer	●	
725-1	quad 4-input multiplexer with 30 Ohm series termination resistors	●	
733	quad data multiplexer; non-inverting (3-state)	●	

TTL SERIES

REGISTERS

TTL SERIES		F	ALS
164	8-bit serial-in/parallel-out shift register	○	○
166	8-bit serial/parallel-in/serial-out shift register	○	
194	4-bit bidirectional universal shift register	○	
195	4-bit parallel access shift register	○	
198	8-bit bidirectional universal shift register	○	
199	8-bit parallel-access shift register	○	
225	16x5 asynchronous FIFO (3-state)	○	
298	quad 2-input multiplexer with storage	○	
299	octal shift/storage register (3-state)	○	
322	octal shift/storage register (3-state)	○	
323	octal shift/storage register (3-state)	○	
350	4-bit shifter (3-state)	○	
395	4-bit cascadable shift register (3-state)	○	
398	quad 2-port register true	○	
399	quad 2-port register true	○	
410	register stack; 16x4 RAM; 3-state output register	○	
595	8-bit shift register with output latches (3-state)	○	
597	8-bit shift register with input latches	○	
598	8-bit shift register with input latches (3-state)	○	
670	4x4 register file (3-state)	○	
674	16-bit serial/parallel-in,serial out shift register (3-state)	○	
676	16-bit serial/parallel-in, serial out shift register (3-state)	○	
821	10-bit bus interface register, non-inverting (3-state)	○	
822	10-bit bus interface register; inverting (3-state)	○	
823	9-bit bus interface register; non-inverting (3-state)	○	
824	9-bit bus interface register; inverting (3-state)	○	
825	9-bit bus interface register; non-inverting (3-state)	○	
826	9-bit bus interface register; inverting (3-state)	○	
835	8-bit shift register; 2:1 MUX-in; latched 'B' inputs; serial-out	○	

SCHMITT TRIGGERS

		F	ALS
14	hex inverter Schmitt trigger	○	
132	quad 2-input NAND Schmitt trigger	○	

SPECIAL FUNCTIONS

		F	ALS
764-1	DRAM dual-ported controller	○	
765-1	DRAM dual-ported controller without latch	○	
786	4-input asynchronous bus arbiter	○	
1762	1 M-bit memory address controller	○	
1763	1 M-bit intelligent DRAM controller	○	
1764	1 M-bit DRAM dual-ported controller with latch	○	
1764-1	1 M-bit DRAM dual-ported controller with latch	○	
1765	1 M-bit DRAM dual-ported controller without latch	○	
1765-1	1 M-bit DRAM dual-ported controller without latch	○	
1766	burst mode DRAM controller	○	

TRANSCEIVERS

		F	ALS
242	quad bus inverting transceiver (3-state)	○	
243	quad transceiver (3-state)	○	
245	octal bus transceiver (3-state)	○	
245A	octal bus transceiver (3-state)		○
245A-1	octal bus transceiver (3-state)		○
543	octal registered transceiver; non-inverting (3-state)	○	○
543-1	octal registered transceiver; non-inverting (3-state)		○
544	octal registered transceiver; inverting (3-state)	○	○

TTL SERIES		F	ALS
544-1	octal registered transceiver; inverting (3-state)		●
545	octal bus transceiver (3-state)	●	
552	octal registered transceiver with status flags	●	
620	octal bus transceiver; inverting (3-state)	●	
620A	octal bus transceiver; inverting (3-state)		●
620A-1	octal bus transceiver; inverting (3-state)		●
621	octal bus transceiver; non-inverting (open collector)	●	
623	octal bus transceiver; non-inverting (3-state)	●	
623A	octal bus transceiver; non-inverting (3-state)		●
623A-1	octal bus transceiver; non-inverting (3-state)		●
640	octal bus transceiver, inverting (3-state)	●	
641	octal bus transceiver; non-inverting (open collector)	●	
642	octal bus transceiver; inverting (open collector)	●	
645A	octal transceiver (3-state)		●
645A-1	octal transceiver (3-state)		●
646	octal bus transceiver and register; non-inverting (3-state)	●	●
646-1	octal transceiver/register; non-inverting (3-state)		●
646A	octal bus transceiver and register; non-inverting (3-state)	●	
647	octal bus transceiver and register; non-inverting (open collector)	●	
648	octal bus transceiver and register; inverting (3-state)	●	●
648-1	octal transceiver/register; inverting (3-state)		●
648A	octal bus transceiver and register; inverting (3-state)	●	
649	octal bus transceiver and register; inverting (open collector)	●	
651	octal transceiver/register; inverting (3-state)	●	●
651-1	octal transceiver/register; inverting (3-state)		●
651A	octal transceiver/register; inverting (3-state)	●	
652	octal transceiver/register; non-inverting (3-state)	●	●
652-1	octal transceiver/register; non-inverting (3-state)		●
652A	octal transceiver/register; non-inverting (3-state)	●	
653	octal transceiver/register, inverting (open collector) (3-state)	●	
657	octal bus transceiver with parity generator/checker (3-state)	●	
776	octal bidirectional latched bus transceiver (open collector)	●	
777	triple bidirectional latched bus transceiver (3-state) (open collector)	●	
807	octal shift/count registered transceiver with adder and parity (3-state)	●	
861	10-bit bus transceiver, non-inverting	●	
862	10-bit bus transceiver, inverting	●	
863	9-bit bus transceiver, non-inverting (3-state)	●	
864	9-bit bus transceiver, inverting (3-state)	●	
1243	quad transceiver (3-state); light load	●	
1245	octal bus transceiver (3-state); light load	●	
2245	octal bus transceiver with 30 Ω termination resistors (3-state)	●	
2952	8-bit transceiver; non-inverting (3-state)	●	
2953	8-bit transceiver; inverting (3-state)	●	
3893	quad FutureBus backplane transceiver (3-state, open collector)	●	
8960	octal latched bidirectional FutureBus transceiver; inverting (open collector)	●	
8961	octal latched bidirectional FutureBus transceiver; non-inverting (open collector)	●	
8962	9-bit latched bidirectional FutureBus transceiver; inverting (open collector)	●	
8963	9-bit latched bidirectional FutureBus transceiver; non-inverting (open collector)	●	
8965	Futurebus address data transceiver	●	
8966	Futurebus address data transceiver	●	

Programmable Logic Devices (PLDs)

LOW-VOLTAGE DEVICES

LVT16V8-6	3 Volt BiCMOS versatile GAL-type PLD; t_{PD} = 7.5 ns; f_{MAX} = 100 MHz
LVT16V8-7	3 Volt BiCMOS versatile GAL-type PLD; t_{PD} = 7 ns; f_{MAX} = 91 MHz
LVT16V8L-D	3 Volt BiCMOS versatile GAL-type PLD; t_{PD} = 10 ns; f_{MAX} = 77 MHz; I_{CC} = 30 mA
LVT22V10-7	3 Volt BiCMOS versatile PAL; t_{PD} = 7.5 ns; f_{MAX} = 100MHz
LVT22V10-B	3 Volt BiCMOS versatile PAL; t_{PD} = 15 ns; f_{MAX} = 59 MHz
LVT22V10-D	3 Volt BiCMOS versatile PAL; t_{PD} = 10 ns; f_{MAX} = 87 MHz
P3C18V8Z35	3 Volt zero standby power universal PAL device; EPLD; t_{PD} = 35 ns; f_{MAX} = 25 MHz
P3C18V8ZI	3 Volt zero standby power universal PAL device; EPLD; t_{PD} = 40 ns; f_{MAX} = 20 MHz

PROGRAMMABLE HIGH-SPEED DECODERS

PHD48N22-7	Programmable high-speed decoder logic (48x73x22); t_{PD} = 7.5 ns

PAL-TYPE DEVICES

Combinatorial PAL-type devices

PLUS16L8D	PAL device; t_{PD} = 10 ns
PLUS16L8-7	PAL device; t_{PD} = 7.5 ns
PLUS20L8D	PAL device; t_{PD} = 10 ns
PLUS20L8-7	PAL device; t_{PD} = 7 ns

Registered PAL-type devices

PLUS16R4D	PAL device; registered; t_{PD} = 10 ns; f_{MAX} = 60 MHz
PLUS16R4-7	PAL device; registered; t_{PD} = 7.5 ns f_{MAX} = 74 MHz
PLUS16R6D	PAL device; registered; t_{PD} = 10 ns; f_{MAX} = 60 MHz
PLUS16R6-7	PAL device; registered; t_{PD} = 7.5 ns f_{MAX} = 74 MHz
PLUS16R8D	PAL device; registered; t_{PD} = 10 ns; f_{MAX} = 60 MHz
PLUS16R8-7	PAL device; registered; t_{PD} = 7.5 ns; f_{MAX} = 74 MHz
PLUS20R4D	PAL device; registered; t_{PD} = 10 ns; f_{MAX} = 60 MHz
PLUS20R4-7	PAL device; registered; t_{PD} = 7.5 ns; f_{MAX} = 74MHz
PLUS20R6D	PAL device; registered; t_{PD} = 10 ns; f_{MAX} = 60 MHz
PLUS20R6-7	PAL device; registered; t_{PD} = 7.5 ns; f_{MAX} = 74 MHz
PLUS20R8D	PAL device; registered; t_{PD} = 10 ns; f_{MAX} = 60 MHz
PLUS20R8-7	PAL device; registered; t_{PD} = 7.5 ns; f_{MAX} = 74 MHz

Universal PAL-type devices

10H20EV8-4	ECL programmable array logic; ECL10KH; t_{PD} = 4.5 ns; f_{MAX} = 208 MHz
ABT22V10A5	BiCMOS low-noise, high-drive PLD with live insertion; t_{PD} = 5 ns; f_{MAX} = 166 MHz
ABT22V10A7	BiCMOS low-noise, high-drive PLD with live insertion; t_{PD} = 7.5 ns; f_{MAX} = 12.5 MHz
ABT22V10-7	BiCMOS low-noise, high-drive, metastable immune PLD; t_{PD} = 7.5 ns; f_{MAX} = 87 MHz
PL22V10I15	CMOS programmable electrically erasable logic device; EPLD; t_{PD} = 15 ns; f_{MAX} = 53 MHz; industrial temperature range
PL22V10-10	CMOS programmable electrically erasable logic device; EPLD; t_{PD} = 10 ns; f_{MAX} = 77 MHz
PL22V10-12	CMOS programmable electrically erasable logic device; EPLD; t_{PD} = 12 ns; f_{MAX} = 67 MHz
PL22V10-15	CMOS programmable electrically erasable logic device; EPLD; t_{PD} = 15 ns; f_{MAX} = 53 MHz
PLC18V8Z25	Zero standby power CMOS versatile PAL device; EPLD; t_{PD} = 25 ns; f_{MAX} = 30 MHz
PLC18V8Z35	Zero standby power CMOS versatile PAL device; EPLD; t_{PD} = 35 ns; f_{MAX} = 21 MHz
PLC18V8ZI	Zero standby power CMOS versatile PAL device; EPLD; t_{PD} = 40 ns; f_{MAX} = 21 MHz; industrial temperature range
PLC18V8ZIA	Zero standby power CMOS versatile PAL device; EPLD; t_{PD} = 25 ns; f_{MAX} = 30 MHz; industrial temperature range

Programmable Logic Devices (PLDs)

PROGRAMMABLE LOGIC ARRAYS

PLS100	Programmable logic array (16x48x8); t_{PD} = 50 ns
PLS101	Programmable logic array (16x48x8); open collector; t_{PD} = 50 ns
PLS153	Programmable logic array (18x42x10); t_{PD} = 40 ns
PLS153A	Programmable logic array (18x42x10); t_{PD} = 30 ns
PLS173	Programmable logic array (22x42x10); t_{PD} = 30 ns
PLUS153B	Programmable logic array (18x42x10); t_{PD} = 15 ns
PLUS153D	Programmable logic array (18x42x10); t_{PD} = 12 ns
PLUS153-10	Programmable logic array (18x42x10); t_{PD} = 10 ns
PLUS173B	Programmable logic array (22x42x10); t_{PD} = 15 ns
PLUS173D	Programmable logic array (22x42x10); t_{PD} = 12 ns
PLUS173-10	Programmable logic array (22x42x10); t_{PD} = 10 ns

PROGRAMMABLE LOGIC SEQUENCERS

PLC42VA12	CMOS programmable multi-function PLD (42x105x12); EPLD; t_{PD} = 35 ns; f_{MAX} = 25 MHz
PLS105	Programmable logic sequencer (16x48x8); f_{MAX} = 14 MHz
PLS105A	Programmable logic sequencer (16x48x8); f_{MAX} = 20 MHz
PLS155	Programmable logic sequencer (16x45x12); t_{PD} = 50 ns; f_{MAX} = 14 MHz
PLS157	Programmable logic sequencer (16x45x12); t_{PD} = 50 ns; f_{MAX} = 14 MHz
PLS159A	Programmable logic sequencer (16x45x12); t_{PD} = 35 ns; f_{MAX} = 18 MHz
PLS167	Programmable logic sequencer (14x48x6); f_{MAX} = 14 MHz
PLS167A	Programmable logic sequencer (14x48x6); f_{MAX} = 20 MHz
PLS168	Programmable logic sequencer (12x48x8); f_{MAX} = 14 MHz
PLS168A	Programmable logic sequencer (12x48x8); f_{MAX} = 20 MHz
PLS179	Programmable logic sequencer (20x45x12); t_{PD} = 35 ns; f_{MAX} = 18 MHz
PLUS105-45	Programmable logic sequencer (16x48x8); f_{MAX} = 45 MHz
PLUS105-55	Programmable logic sequencer (16x48x8); f_{MAX} = 55 MHz
PLUS105-70	Programmable logic sequencer (16x48x8); f_{MAX} = 70 MHz
PLUS405-37	Programmable logic sequencer (14x64x8); f_{MAX} = 37 MHz
PLUS405-45	Programmable logic sequencer (16x64x8); f_{MAX} = 45 MHz
PLUS405-55	Programmable logic sequencer (16x64x8); f_{MAX} = 55MHz

PROGRAMMABLE MACRO LOGIC

PLHS501	Programmable macro logic PML; t_{PD} = 22 ns
PML2552-35	CMOS high density programmable macro logic; EPLD; t_{PD} = 35 ns
PML2552-50	CMOS high density programmable macro logic; EPLD; t_{PD} = 50 ns
PML2852-35	CMOS high density programmable macro logic; EPLD; t_{PD} = 35 ns
PML2852-50	CMOS high density programmable macro logic; EPLD; t_{PD} = 50 ns

COMPLEX PROGRAMMABLE LOGIG

LVT3032	3 Volt BiCMOS 32 macrocell CPLD; 6 ns
PZ3032	3 Volt EECMOS 32 macrocell zeropower CPLD
PZ5032	3 Volt EECMOS 32 macrocell zeropower CPLD
PZ3063	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ5063	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ3064	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ5064	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ3065	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ5065	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ3066	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ5066	3 Volt EECMOS 64 macrocell zeropower CPLD
PZ3128	3 Volt EECMOS 128 macrocell zeropower CPLD
PZ5128	3 Volt EECMOS 128 macrocell zeropower CPLD

INTEGRATED CIRCUITS
GENERAL PURPOSE

Memories

EEPROMs

PCA8581	128x8-bit EEPROM with I^2C-bus interface; 4.5 V to 5.5 V supply voltage
PCA8581C	128x8-bit EEPROM with I^2C-bus interface; 2.5 V to 6 V supply voltage
PCB2421	128x8-bit dual-mode (DCC-compatible) EEPROM for monitor identification; DCC1/DCC2B compatible
PCx8582	256x8-bit family of CMOS EEPROM with I^2C-bus interface
PCF8522E	256x8-bit CMOS EEPROM with I^2C-bus interface
PCx8594	512x8-bit family of CMOS EEPROM with I^2C-bus interface
PCF8524E	512x8-bit CMOS EEPROM with I^2C-bus interface
PCx8598	1024x8-bit family of CMOS EEPROM with I^2C-bus interface
PCx85116	2048x8-bit family of CMOS EEPROM with I^2C-bus interface

BIPOLAR PROMs

N82S23A	256-bit bipolar PROM (32x8); t_{PD} = 25 ns
N82S23	256-bit bipolar PROM (32x8); t_{PD} = 50 ns
N82S123	256-bit bipolar PROM (32x8); t_{PD} = 50 ns
N82S123A	256-bit bipolar PROM (32x8); t_{PD} = 25 ns
N82S126	1024-bit bipolar PROM (256x4); t_{PD} = 50 ns
N82S126A	1024-bit bipolar PROM (256x4); t_{PD} = 27 ns
N82S129	1024-bit bipolar PROM (256x4); t_{PD} = 50 ns
N82S129A	1024-bit bipolar PROM (256x4); t_{PD} = 27 ns
10149	1024-bit ECL bipolar PROM (256x4); t_{PD} = 20 ns
10149A	1024-bit ECL bipolar PROM (256x4); t_{PD} = 10 ns
N82S130	2048-bit bipolar PROM (512x4); t_{PD} = 50 ns
N82S130A	2048-bit bipolar PROM (512x4); t_{PD} = 33 ns
N82S131	2048-bit bipolar PROM (512x4); t_{PD} = 50 ns
N82S131A	2048-bit bipolar PROM (512x4); t_{PD} = 30 ns
N82LS135	2048-bit bipolar PROM (256x8); t_{PD} = 100 ns
N82S135	2048-bit bipolar PROM (256x8); t_{PD} = 45 ns
N82S137	4096-bit bipolar PROM (1024x4); t_{PD} = 60 ns
N82S137A	4096-bit bipolar PROM (1024x4); t_{PD} = 45 ns
N82S137B	4096-bit bipolar PROM (1024x4); t_{PD} = 35 ns
N82S141	4096-bit bipolar PROM (512x8); t_{PD} = 60 ns
N82S141A	4096-bit bipolar PROM (512x8); t_{PD} = 45 ns
N82S147	4096-bit bipolar PROM (512x8); t_{PD} = 60 ns
N82S147A	4096-bit bipolar PROM (512x8); t_{PD} = 45 ns
N82S147B	4096-bit bipolar PROM (512x8); t_{PD} = 25 ns
N82S181	8192-bit bipolar PROM (1024x8); t_{PD} = 70 ns
N82S181A	8192-bit bipolar PROM (1024x8); t_{PD} = 55 ns
N82S181C	8192-bit bipolar PROM (1024x8); t_{PD} = 35 ns
N82S185A	8192-bit bipolar PROM (2048x4); t_{PD} = 30 ns
N82S185B	8192-bit bipolar PROM (2048x4); t_{PD} = 50 ns
N82S185C	8192-bit bipolar PROM (2048x4); t_{PD} = 35 ns
N82S191	16384-bit bipolar PROM (2048x8); t_{PD} = 80 ns
N82S191A	16384-bit bipolar PROM (2048x8); t_{PD} = 55 ns
N82S191C	16384-bit bipolar PROM (2048x8); t_{PD} = 35 ns
N82HS321	32768-bit bipolar PROM (4096x8); t_{PD} = 45 ns
N82HS321A	32768-bit bipolar PROM (4096x8); t_{PD} = 35 ns
N82HS321B	32768-bit bipolar PROM (4096x8); t_{PD} = 30 ns

CMOS RAMs

PCF8570	256x8-bit static low-voltage RAM with I^2C-bus interface; 50 nA in power saving mode; 2.5 V to 6 V supply voltage; 1.0 V data retention

BIPOLAR RAMs

N74F189A	64-bit TTL bipolar RAM (16x4); inverting; 3-state; t_{PD} = 15 ns
C3F189A	64-bit TTL bipolar RAM (16x4); inverting; 3-state; t_{PD} = 15 ns
N74F219A	64-bit TTL bipolar RAM (16x4); non-inverting; 3-state; t_{PD} = 10 ns
C3F219A	64-bit TTL bipolar RAM (16x4); non-inverting; 3-state; t_{PD} = 10 ns
N74F410	64-bit TTL bipolar RAM (16x4); 3-state; t_{PD} = 19.5 ns

RAM/DRAM CONTROLLERS

N74F764-1	DRAM dual ported controller
N74F765-1	DRAM dual ported controller without latch
N74F1762	4 M-bit memory address controller
N74F1763	1 M-bit intelligent DRAM controller
N74F1764	1 M-bit DRAM dual ported controller with latch
N74F1764-1	1 M-bit DRAM dual ported controller with latch
N74F1765	1 M-bit DRAM dual ported controller without latch
N74F1765-1	1 M-bit DRAM dual ported controller without latch
N74F1766	Burst-mode DRAM controller
74ABT4764	Programmable DRAM controller

Microcontrollers

8051-BASED 8-BIT MICROCONTROLLERS

80C51 family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
S80C51FA	ROMless	256	24	four 8-bit I/O ports; three 16-bit counter/timers; UART; programmable counter array; 64k ROM and 64k RAM external addressing; up to 24 MHz speed versions; idle and power-down modes	OTP package; extended temp.
S83C51FA	8k ROM	256	24		
S83C51FB	16k ROM	256	24		
S83C51FC	32k ROM	256	24		
S87C51FA	8k EPROM	256	24		
S87C51FB	16k EPROM	256	24		
S87C51FC	32k EPROM	256	24		
S83L51FA	8k ROM	256	20	four 8-bit I/O ports; three 16-bit counter/timers; UART; programmable counter array; 64k ROM and 64k RAM external addressing; up to 20 MHz speed versions; idle and power-down modes	OTP package; extended temp.
S83L51FB	16k ROM	256	20		
S87L51FA	8k EPROM	256	20		
S87L51FB	16k EPROM	256	20		
PCx80C31	ROMless	128	33	four 8-bit I/O ports; two 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; up to 33 MHz speed versions; CMOS and TTL compatible	OTP package; extended temp.
SC80C31	ROMless	128	33		
PCx80C51	4k ROM	128	33		
SC80C51	4k ROM	128	33		
SC87C51	4k EPROM	128	33		
P80C32	ROMless	256	24	four 8-bit I/O ports; three 16-bit counter/timers; programmable counter array; UART; boolean processor; 64k ROM and 64k RAM external addressing; up to 24 MHz speed versions; idle and power-down modes; CMOS and TTL compatible	OTP package; extended temp.
P80C52	8k ROM	256	24		
P87C52	8k EPROM	256	24		
P80C54	16k ROM	256	24	four 8-bit I/O ports; three 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; 3.5 to 24 MHz speed; idle and power-down modes; CMOS and TTL compatible	OTP package; extended temp.
P87C54	16k EPROM	256	24		
P80C58	32k ROM	256	16	four 8-bit I/O ports; three 16-bit counter/timers; UART; 64-byte encription array; idle and power-down modes; CMOS and TTL compatible	OTP package
P87C58	32k EPROM	256	16		
P83C169	16k ROM	256		64 fonts +112 CC fonts; 128 display format; fixed display format; 16 colors; 12x13 dot matrix; soft scroll-up; LC oscillator; OSD mesh; two 16-bit timers; watchdog timer; 9 channels of 7-bit PWMs; 3 channels of 4-bit AFCs; closed-caption decoder	I^2C-bus
P87C769	64k OTP	512			
P83CE366	32k ROM	512		128 fonts; 192 display RAM; flexible display format; 8 colors; 12x18 dot matrix; PLL oscillator; OSD mesh; two 16-bit timers; watchdog timer; VST; eight channels of 7-bit PWMs; 3 channels of 4-bit AFCs	I^2C-bus
P87CE766	64k OTP	2048			
SC80C451	ROMless	128	16	seven 8-bit I/O ports; two 16-bit counter/timers; UART; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions; idle and power-down modes	OTP package; extended temp.
SC83C451	4k ROM	128	16		
SC87C451	4k EPROM	128	16		
P80C453	ROMless	256	16	seven 8-bit I/O ports; ISA-bus interface; parallel printer interface; two 16-bit counter/timers; UART; 64k ROM and 64k RAM external addressing; idle and power-down modes; reduced EMI	
P83C453	8k ROM	256	16		
P87C453	8k EEPROM	256	16		

80C51 family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
P83C504 **P87C504**	16k EPROM 16k EPROM	256 256	24 24	four 8-bit I/O ports; two 16-bit counter/timers; 24x8 divide; UART; 64k ROM and 64k RAM external addressing; 20 and 24 MHz speed versions; idle and power-down modes	OTP package
P83C508 **P87C508**	32k EPROM 32k EPROM	256 256	24 24	four 8-bit I/O ports; two 16-bit counter/timers; 24x8 divide and multiply; UART; 64k ROM and 64k RAM external addressing; 20 and 24 MHz speed versions; idle and power-down modes	OTP package
P83C524 **P87C524**	16k ROM 16k EPROM	512 512	16 16	four 8-bit I/O ports; three 16-bit counter/timers; watchdog timer; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; 16 and 20 MHz speed versions; idle and power-down modes; CMOS and TTL compatible	OTP package; ROM code protection; extended temp.
P80C528 **P83C528** **P87C528**	ROMless 32k ROM 32k EPROM	512 512 512	16 16 20	four 8-bit I/O ports; three 16-bit counter/timers; watchdog timer; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; 16 and 20 MHz speed versions; CMOS and TTL compatible	ROM code protection; extended temp.
P80CE528 **P83CE528**	ROMless 32k ROM	512 512	16 16	four 8-bit I/O ports; three 16-bit counter/timers; watchdog timer; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; idle and power-down modes; CMOS and TTL compatible; reduced electro magnetic emission	ROM code protection; extended temp.
P83C542 **P87C542**	4k ROM 4k EPROM	256 256	16 16	25 I/O lines; ACCESS.bus interface; ISA interface; two 16-bit timer/counters; reduced electro magnetic emission	OTP package
P80C550 **P83C550** **P87C550**	ROMless 4k ROM 4k EPROM	128 128 128	16 16 16	three 8-bit I/O ports; one 8-bit input port; 8 channels of 8-bit ADC; two 16-bit counter/timers; watchdog timer; UART; 64k ROM and 64k RAM external addressing; 16 MHz speed; CMOS and TTL compatible	OTP package; extended temp.
PCx80C552 **S80C552** **PCx83C552** **S83C552** **S87C552**	ROMless ROMless 8k ROM 8k ROM 8k EPROM	256 256 256 256 256	30 30 30 30 16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 10-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; up to 30 MHz speed	OTP package; extended temp.
P80CE558 **P83CE558** **P89CE558**	ROMless 32k ROM 32k FEEPROM	1k 1k 1k	16 16 16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 10-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; PLL oscillator; reduced electro magnetic emission; in-circuit reprogrammable FEEPROM	ROM code protection; extended temp.
P80CE559 **P83CE559**	ROMless 48k ROM	1.5k 1.5k	16 16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 10-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; PLL oscillator; reduced electro magnetic emission	ROM code protection; extended temp.

Microcontrollers

80C51 family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
P80C562 **S80C562** **P83C562** **S83C562**	ROMless ROMless 8k ROM 8k ROM	256 256 256 256	16 16 16 16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 8-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; watchdog timer; UART; 64k ROM and 64k RAM external addressing; 12 and 16 MHz speed versions	extended temp.
P80C575 **P83C575** **P87C575**	ROMless 8k ROM 8k EPROM	256 256 256	16 16 16	four 8-bit I/O ports; three 16-bit counter/timers; programmable counter array; watchdog timer; UART; boolean processor; four analog comparators; power-fail detect; oscillator-fail detect; 64k ROM and 64k RAM external addressing; CMOS and TTL compatibe	OTP package; extended temp.
P83C576 **P87C576**	8k ROM 8k Eprom	256 256	16 16	four 8-bit I/O ports; three 16-bit counter/timers; programmable counter array; watchdog timer; UART; four analog comparators; 6 channels of 10-bit ADC; two PWM outputs; power- and oscillator-fail detect; 64k ROM and 64k RAM external addressing; universal peripheral interface	OTP package; extended temp.
P80C592 **P83C592** **P87C592**	ROMless 16k ROM 16k EPROM	512 512 512	16 16 16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 10-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; watchdog timer; UART; 1 Mbits/s CAN controller; 64k ROM and 64k RAM external addressing;	OTP package; extended temp.; ROM code protection
P80CE598 **P83CE598** **P87CE598**	ROMless 32k ROM 32k EPROM	512 512 512	16 16 16	five 8-bit I/O ports; one 8-bit input port; 8 channels of 10-bit ADC; two 8-bit DAC PWM outputs; three 16-bit counter/timers; watchdog timer; UART; 1 Mbits/s CAN controller; 64k ROM and 64k RAM external addressing; reduced electro magnetic emission	OTP package; extended temp.; ROM code protection
P80C652 **S80C652** **P83C652** **S83C652** **S87C652**	ROMless ROMless 8k ROM 8k ROM 8K EPROM	256 256 256 256 256	24 24 24 24 20	four 8-bit I/O ports; two 16-bit counter/timers; UART; I^2C-bus; 64k ROM and 64k RAM external addressing; 16 to 24 MHz speed versions	OTP package; extended temp.; ROM code protection
P80C654 **P83C654** **S87C654**	ROMless 16k ROM 16k EPROM	256 256 256	24 24 20	four 8-bit I/O ports; two 16-bit counter/timers; UART; I^2C-bus; idle and power-down modes; 64k ROM and 64k RAM external addressing; 16 to 24 MHz speed versions	OTP package; extended temp.; ROM code protection
P83CE654	16k ROM	256	16	four 8-bit I/O ports; two 16-bit counter/timers; UART; I^2C-bus; idle and power-down modes; 64k ROM and 64k RAM external addressing; reduced electro magnetic emission	extended temp.; ROM code protection
P83C748 **P87C748**	2k ROM 2k EPROM	64 64	16 16	two 8-bit I/O ports; one 3-bit I/O port; one 16-bit counter/timer; one 10-bit fixed-rate timer; Boolean processor; LED drive outputs	OTP package; extended temp
P83C749 **P87C749**	2k ROM 2k EPROM	64 64	16 16	two 8-bit I/O ports; one 5-bit I/O port; one 16-bit counter/timer; one 8-bit PWM output/timer; 5 channels of 8-bit ADC; one 10-bit fixed-rate timer; Boolean processor	OTP package; extended temp

INTEGRATED CIRCUITS
GENERAL PURPOSE

Microcontrollers

80C51 family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
P83C750	1k ROM	64	40	two 8-bit I/O ports; one 3-bit I/O port; one 16-bit counter/timer; boolean processor; I^2C-bus; idle and power-down modes; 16 and 40 MHz speed versions; CMOS and TTL compatible; LED drive outputs	OTP package extended temp
P87C750	1k EPROM	64	40		
S83C751	2k ROM	64	16	two 8-bit I/O ports; one 3-bit I/O port; one 16-bit counter/timer; boolean processor; I^2C-bus; idle and power-down modes; 12 and 16 MHz speed versions; CMOS and TTL compatible; LED drive outputs	OTP package extended temp
S87C751	2k EPROM	64	16		
S83C752	2k ROM	64	16	two 8-bit I/O ports; one 5-bit I/O port; one 16-bit counter/timer; 5 channels of 8-bit ADC; one 8-bit PWM output; boolean processor; I^2C-bus; idle and power-down modes; 12 and 16 MHz speed versions; CMOS and TTL compatible	OTP package extended temp.
S87C752	2k EPROM	64	16		
P8xC754	4k ROM			Digital-to-analog converter	
P80C851	ROMless and 256 EEPROM	128	16	four 8-bit I/O ports; two 16-bit counter/timers; UART; EEPROM with 50k erase/write cycles per byte; 64k ROM and 64k RAM external addressing; 16 MHz speed; boolean processor; idle and power-down modes; CMOS and TTL compatible;	extended temp.; ROM code protection
S80C851		128	16		
P83C851	4k ROM and 256 EEPROM	128	16		
S83C851		128	16		
P83C845	8k ROM	256	12	128×10 display RAM; 60×18×14 character generator ROM; OSD controller; 3 digital video outputs; 37 I/O lines; 14-bit PWM; eight 6-bit PWMs; triple multiplexed DAC	
P83C145	12k ROM	256	12		
P83C055	16k ROM	256	12		
P87C055	16k EPROM	256	12		

P80CLxxx family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
P80CL31	ROMless	128	16	four 8-bit I/O ports; two 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; 32 kHz to 12 MHz speed; IDLE and STOP for low power consumption; wake-up facility; 8 external programmable interrupts	1.8 to 6 V supply voltage
P80CL51	4k	128	16		
P80CL410	ROMless	128	12	four 8-bit I/O ports; two 16-bit counter/timers; I^2C-bus; 64k ROM and 64k RAM external addressing; 32 kHz to 12 MHz speed; IDLE and STOP for low power consumption; wake-up facility; 8 external programmable interrupts	1.8 to 6 V supply voltage
P83CL410	4k	128	12		
P83CL434	4k	128	12	80C51 CPU, 12 I/O lines; real-time clock; LCD display drive	4.5 V supply voltage; OTP package
P83CL834	8k	256	12		
P87CL134	16k	256	12		
P80CL580	ROMless	256	12	five 8-bit I/O ports; three 16-bit counter/timers; I^2C-bus; 64k ROM and 64k RAM external addressing; UART; PWM output; 4-input 8-bit ADC; 32 kHz to 12 MHz speed; IDLE and STOP for low power consumption; wake-up facility; 7 external programmable interrupts; watchdog timer; 8-bit ADC; PWM output	2.5 to 6 V supply voltage
P83CL580	6k	256	12		

Microcontrollers

P80CLxxx family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
P83CL781	16k	256	12	four 8-bit I/O ports; three 16-bit counter/timers; I²C-bus; 64k ROM and 64k RAM external addressing; UART; 32 kHz to 12 MHz speed; IDLE and STOP for low power consumption; wake-up facility; 8 external programmable interrupts	1.8 to 6 V supply voltage
P83CL782	16k	256	12	fast version of the CL781: 12 MHz at 3.1 V	1.8 to 6 V supply voltage

8051 family of NMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
MAx8031	ROMless	128	15	four 8-bit I/O ports; two 16-bit counter/timers; UART; boolean processor; 64k ROM and 64k RAM external addressing; 12 and 15 MHz speed versions;	extended temp.
MAx8051	4k	128	15		
MAx8032	ROMless	256	15		
MAx8052	8k	256	15		

8048-BASED 8-BIT MICROCONTROLLERS

PCx8400 family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
PCF84C12A	1k	64	16	one 8-bit I/O port; one 5-bit I/O port; one 8-bit counter/timer	2.5 to 5.5 V supply voltage
PCF84C22A	2k	64	16		
PCF84C42A	4k	64	16		
PCF84C21A	2k	64	16	two 8-bit I/O ports; one 4-bit I/O port; one 8-bit counter/timer; I²C-bus	2.5 to 5.5 V supply voltage
PCF84C41A	4k	128	16		
PCF84C81A	8k	256	16		
PCF84C85A	8k	256	16	four 8-bit I/O ports; one 1-bit I/O port; one 8-bit counter/timer; I²C-bus	2.5 to 5.5 V supply voltage
PCA84C122A	1k	32	6	8-bit timer with 5-bit pre-scaler; watchdog timer; 27 mA IR-LED drive output; remote control transmitter applications; 2.0 to 5.5 V supply voltage; 6 MHz speed at 2.5 V supply voltage	16 I/O lines
PCA84C122B	1k	32	6		12 I/O lines
PCA84C222A	2k	32	6		16 I/O lines
PCA84C222B	2k	32	6		12 I/O lines
PCA84C422A	4k	32	6		16 I/O lines
PCA84C422B	4k	32	6		12 I/O lines
PCA84C622A	6k	64	6		16 I/O lines
PCA84C622B	6k	64	6		12 I/O lines
PCA84C622C	6k	64	6		20 I/O lines
PCA84C822A	8k	64	6		16 I/O lines
PCA84C822B	8k	64	6		12 I/O lines
PCA84C822C	8k	64	6		20 I/O lines
PCA84C922A	8k + 8k	128	6		16 I/O lines
PCA84C922C	8k + 8k	128	6		20 I/O lines
PCA84C923A	8k + 16k	256	6		16 I/O lines
PCA84C923C	8k + 16k	256	6		20 I/O lines
PCA84C923D	8k + 16k	256	6		36 I/O lines

PCx8400 family of CMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
PCA84C440	4k	128	10	three 8-bit I/O ports; one 5-bit I/O port; 8-bit counter/timer; five 6-bit DACs; 14-bit DAC for voltage synthesized tuning (VST); 3-bit DAC + comparator for AFC; OSD of 2 rows of 16 characters; 64 characters for OSD	RC osc; I^2C-bus
PCA84C441	4k	128	10		LC osc; I^2C-bus
PCA84C443	4k	128	10		RC oscillator
PCA84C444	4k	128	10		LC oscillator
PCA84C640	6k	128	10		RC osc; I^2C-bus
PCA84C641	6k	128	10		LC osc; I^2C-bus
PCA84C643	6k	128	10		RC oscillator
PCA84C644	6k	128	10		LC oscillator
PCA84C840	8k	192	10		RC osc; I^2C-bus
PCA84C841	8k	192	10		LC osc; I^2C-bus
PCA84C843	8k	192	10		RC oscillator
PCA84C844	8k	192	10		LC oscillator
PCA84C646	6k	192	10	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; 8-bit timer; 4 6-bit PWMs; 4 7-bit PWMs; 14-bit DAC for VST; 3 4-bit AFCs; OSD; 64 fonts; 64x10 display RAM; 8 colors; 12x18 dot matrix; PLL oscillator	
PCA84C846	8k	192	10		
PCE84C486	4k	128	10	one 8-bit counter; one 8-bit timer/counter; 8 to 13 PWM outputs; 1 to 4 ADCs; OSD (882/886 only); I^2C-bus; monitor applications; 4.5 to 5.5 V supply	20 I/O lines
PCE84C487	4k	128	10		24 I/O lines
PCE84C882	8k	192	10		28 I/O lines
PCE84C886	8k	192	10		26 I/O lines

EVALUATION BOARDS FOR 84Cxx PRODUCTS

OM4872	Evaluation board for the 84C886
OM4873	Evaluation board for the 84C882
OM4875	Evaluation board for the 84C122
OM4877	Evaluation board for the 84C487

MAx8400 family of NMOS 8-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
MAx8421	2k	64	6	one 8-bit I/O port (10 mA drive); one 8-bit I/O port (20 mA drive); one 3-bit I/O port; 8-bit counter/timer; I^2C-bus	extended temp. DIL only
MAx8441	4k	128	6		
MAx8461	6k	128	6		

PCD3300 family of CMOS 8-bit microcontrollers

See **Telecommunication** section

Microcontrollers

CMOS 16/32-BIT MICROCONTROLLERS/MICROPROCESSORS

8051XA family of extended architecture CMOS 16-bit microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
P51XAG13 **P51XAG17**	8k ROM 8k EPROM	512 512	30 30	four 8-bit I/O ports; 20-bit address range; three 16-bit counter/timers; watchdog timer; two UARTs; 2.7 to 5.5 V supply	OTP package; extended temp.
P51XAG23 **P51XAG27**	16k ROM 16k EPROM	512 512	30 30	four 8-bit I/O ports; 20-bit address range; three 16-bit counter/timers; watchdog timer; two UARTs; 2.7 to 5.5 V supply	OTP package; extended temp.
P51XAG30 **P51XAG33**	32k ROM 32k EPROM	512 512	30 30	four 8-bit I/O ports; 20-bit address range; three 16-bit counter/timers; watchdog timer; two UARTs; 2.7 to 5.5 V supply	OTP package; extended temp.
P51XAC30 **P51XAC33**	32k ROM 32k EPROM	1024 1024	25 25	three 8-bit I/O ports; three 16-bit counter/timers; watchdog timer; UART; 2.7 to 5.5 V supply; low-voltage detect; CAN2.0B support	OTP package; extended temp.
P51XAS30 **P51XAS33**	32k ROM 32k EPROM	1024 1024	25 25	five 8-bit I/O ports; dual-channel 16-bit Universal Peripheral Interface (UPI); three 16-bit counter/timers; 5-channel 16-bit Programmable Counter Array (PCA); watchdog timer; eight channels of 8-bit ADC; two UARTs; I^{2}C-bus; 2.7 to 5.5 V supply; low-voltage detect; CAN2.0B support	

16/32-bit CMOS microprocessors

type number	ROM	RAM	speed (MHz)	major features	remarks
SCC68070	ROMless	0	17.5	16MB address range; UART; I^{2}C-bus; 2 DMA channels; MMU; 16-bit counter/timer; two 16-bit match/count/capture registers; 15 and 17.5 MHz speed versions; 68000-bus interface;	extended temp
P90CE201	ROMless	0	24	16MB ROM and 16 MB RAM external addressing; UART; I^{2}C-bus; three 16-bit counter/timers; 68000 software compatible; reduced electromagnetic emission	extended temp
P90CL301	ROMless	512	20	68000 core; 8051 interface;three 8-bit I/O ports; 16MB addressing range; two UARTs; I^{2}C-bus; six channels for 16-bit counter/capture/compare timer; watchdog timer; two PWM outputs; four channels of 8-bit ADC; 3 power saving modes; wake-up facility	extended temp

PERIPHERAL ICs

SCC66470/03	Video and system controller; 68000-bus compatible

AMPLIFIERS

High-frequency amplifiers

µA733	Differential video amplifier; 120 MHz bandwidth; -55 to +125°C
µA733C	Differential video amplifier; 120 MHz bandwidth; 0 to +70°C

Operational amplifiers

AU2902	Quad low-power operational amplifier; automotive temp. range
LM124	Quad low-power operational amplifier;-55 to +125°C
LM224	Quad low-power operational amplifier; -55 to +85°C
LM2902	Quad low-power operational amplifier; -40 to +125°C
LM324	Quad low-power operational amplifier; 0 to +70°C
LM324A	Quad low-power operational amplifier; improved LM324; 0 to +70°C
SA534	Quad low-power operational amplifier; -40 to +85°C
AU2904	Dual low-power operational amplifier; automotive temp. range
LM158	Dual low-power operational amplifier; -55 to +125°C
LM258	Dual low-power operational amplifier; -25 to +85°C
LM2904	Dual low-power operational amplifier; -40 to +125°C
LM358	Dual low-power operational amplifier; 0 to +70°C
LM358A	Dual low-power operational amplifier; improved LM358; 0 to +70°C
SA532	Dual low-power operational amplifier; -40 to +85°C
SE532	Dual low-power operational amplifier; -55 to +125°C
TCA520B	Low-power/low-voltage operational amplifier
TCA520D	Low-power/low-voltage operational amplifier; TCA520B in SMD package
NE531	High slew rate operational amplifier; 0 to +70°C
SE531	High slew rate operational amplifier; -55 to +125°C
NE532	Dual low-power operational amplifier; 0 to +70°C
SA741C	General purpose operational amplifier; -40 to +85°C
µA741	General purpose operational amplifier; -55 to +125°C
µA741C	General purpose operational amplifier; 0 to +70°C
µA747C	Dual operational amplifier; 0 to +70°C
MC1458	Dual general purpose operational amplifier; 0 to +70°C
SA1458	Dual general purpose operational amplifier; -40 to +85°C
MC1558	Dual general purpose operational amplifier; -55 to +125°C
NE4558	Dual general purpose operational amplifier; 0 to +70°C
SA4558	Dual general purpose operational amplifier; -40 to +85°C
SE4558	Dual general purpose operational amplifier; -55 to +125°C
NE5230	Low-voltage operational amplifier; 0 to +70°C
SA5230	Low-voltage operational amplifier; -40 to +85°C
NE5234	Matched quad high-performance low-voltage (1.8 V) operational amplifier; 0 to +70°C
SA5234	Matched quad high-performance low-voltage (1.8 V) operational amplifier; -40 to +85°C
NE5512	Dual high-performance operational amplifier; 0 to +70°C
SA5512	Dual high-performance operational amplifier; -40 to +85°C
SE5512	Dual high-performance operational amplifier; -55 to +125°C
NE5514	Quad high-performance operational amplifier; 0 to +70°C
SE5514	Quad high-performance operational amplifier; -55 to +125°C
NE5532	Internally compensated dual low-noise operational amplifier; 0 to +70°C
NE5532A	Internally compensated dual low-noise operational amplifier; guaranteed low-noise voltage spec; 0 to +70°C
SE5532	Internally compensated dual low-noise operational amplifier; -55 to +125°C
SE5532A	Internally compensated dual low-noise operational amplifier; guaranteed low-noise voltage spec; -55 to +125°C
NE5533	Dual low-noise operational amplifier; 0 to +70°C
NE5533A	Dual low-noise operational amplifier; guaranteed low-noise voltage spec; 0 to +70°C
NE5534	Single low-noise operational amplifier; 0 to +70°C
NE5534A	Single low-noise operational amplifier; guaranteed low-noise voltage spec; 0 to +70°C
SA5534	Single low-noise operational amplifier; -40 to +85°C
SA5534A	Single low-noise operational amplifier; guaranteed low-noise voltage spec; 0 to +70°C
SE5534	Single low-noise operational amplifier; -55 to +125°C
SE5534A	Single low-noise operational amplifier; guaranteed low-noise voltage spec; -55 to +125°C

Transconductance amplifiers

NE5517	Dual operational transconductance amplifier; 0 to +70°C
NE5517A	Dual operational transconductance amplifier; improved NE5517; 0 to +70°C

AD AND DA CONVERTERS

A/D converters

ADC0803-1C	8-bit CMOS ADC; 1 MHz; 0 to +70°C
ADC0803-1LC	8-bit CMOS ADC; 1MHz; -40 to +85°C
ADC0804-1C	8-bit CMOS ADC; 1 MHz; 0 to +70°C
ADC0804-1LC	8-bit CMOS ADC; 1MHz; -40 to +85°C
ADC0820	8-bit high-speed CMOS ADC with track/hold; microprocessor compatible; 0 to +70°C; -40 to +85°C
NE5037	6-bit ADC with parallel outputs; low-cost; 9 µs conversion time; 0 to +70°C

D/A converters

DAC08	8-bit high-speed multiplying DAC; -55 to +125°C; relative accuracy = ±0.19% FS
DAC08A	8-bit high-speed multiplying DAC; -55 to +125°C; relative accuracy = ±0.1% FS
DAC08C	8-bit high-speed multiplying DAC; 0 to +70°C; relative accuracu = ±0.39% FS
DAC08E	8-bit high-speed multiplying DAC; 0 to +70°C; relative accuracy = ±0.19% FS
DAC08H	8-bit high-speed multiplying DAC; 0 to +70°C; relative accuracy = ±0.1% FS
MC1408-8	8-bit multiplying DAC; 0 to +70°C
MC1508-8	8-bit multiplying DAC; -55 to +125°C
MC3410	10-bit high-speed multiplying DAC; improved MC3410C; 0 to +70°C
MC3410C	10-bit high-speed multiplying DAC; 0 to +70°C
NE5018	8-bit microprocesor-compatible DAC; 0 to +70°C; relative accuracy = ±0.10% FS
SE5018	8-bit microprocesor-compatible DAC; -55 to +125°C; relative accuracy = ±0.18% FS
NE5019	8-bit microprocesor-compatible DAC; 0 to +70°C; relative accuracy = ±0.1% FS
SE5019	8-bit microprocessor compatible DAC; -55 to +125°C; relative accuracy = ±0.1% FS
NE5020	10-bit microprocesor-compatible DAC; 0 to +70°C
NE5410	10-bit high-speed multiplying DAC; 0 to +70°C
SE5410	10-bit high-speed multiplying DAC; -55 to +125°C
AM6012	12-bit multiplying DAC; 250 ns settling time; 0 to +70°C
PCF8591	8-bit AD and DA converter; I^2C-bus

Comparators

LM111	Voltage comparator; -55 to +125°C
LM211	Voltage comparator; -25 to +85°C
LM311	Voltage comparator; 0 to +70°C
LM311B	Voltage comparator; LM311 specified with single supply = 3 V ±10%; 0 to +70°C
LM219	Dual voltage comparator; -25 to +85°C
LM319	Dual voltage comparator; 0 to +70°C
AU2901	Quad voltage comparator; automotive temp. range
LM139	Quad voltage comparator; -55 to +125°C
LM139A	Quad voltage comparator; improved LM139; -55 to +125°C
LM239	Quad voltage comparator; -25 to +85°C
LM239A	Quad voltage comparator; improved LM239; -25 to +85°C
LM2901	Quad voltage comparator; -40 to +125°C
LM339	Quad voltage comparator; 0 to +70°C
LM339A	Quad voltage comparator; improved LM339; 0 to +70°C
MC3302	Quad voltage comparator; -40 to +85°C
AU2903	Dual low-power voltage comparator; automotive temp. range
LM193	Low-power dual voltage comparator; -55 to +125°C
LM193A	Low-power dual voltage comparator; improved LM193; -55 to +125°C
LM2903	Low-power dual voltage comparator; -40 to +125°C
LM293	Low-power dual voltage comparator; -25 to +85°C
LM293A	Low-power dual voltage comparator; improved LM293; -25 to +85°C
LM393	Low-power dual voltage comparator; 0 to +70°C
LM393A	Low-power dual voltage comparator; improved LM393; 0 to +70°C
NE521	High-speed dual differential comparator/sense amplifier; faster NE522; 0 to +70°C

SE521	High-speed dual differential comparator/sense amplifier; faster NE522; -55 to +125°C
NE522	High-speed dual differential comparator/sense amplifier; 0 to +70°C
NE527	Voltage comparator; 0 to +70°C
NE529	Voltage comparator; high-speed NE527; 0 to +70°C

Sample-and-hold amplifiers

LF198	ample-and-hold amplifier; -55 to +125°C
LF298	Sample-and-hold amplifier; -25 to +85°C
LF398	Sample-and-hold amplifier; 0 to +70°C
NE5537	Low-leakage sample-and-hold amplifier; 0 to +70°C
SE5537	Low-leakage sample-and-hold amplifier; -55 to +125°C

INTERFACE

Peripheral drivers

NE590	Addressable peripheral drivers; open-collector outputs; 0 to +70°C
NE591	Addressable peripheral drivers; open-emitter outputs; 0 to +70°C
SAA1029	Universal industrial logic and interface circuit
NE5090	Addressable relay driver; -40 to +85°C
SA5090	Addressable relay driver; -40 to +85°C

Position measurement

NE5521	Linear variable differential transforner (LVDT) signal conditioner; 0 to +70°C
SA5521	Linear variable differential transformer (LVDT) signal conditioner; -40 to +85°C
SE5521	Linear variable differential transformer (LVDT) signal conditioner; -55 to +125°C

PHASE-LOCKED LOOPS

NE564	Phase-locked loop; 5 V supply; up to 50 MHz; TTL compatible input/output; 0 to +70°C
SE564	Phase-locked loop; 5 V supply; up to 50 MHz; TTL compatible input/output; -55 to +125°C
NE566	Function generator (programmable VCO with square and triangular wave outputs); 0 to +70°C
SE566	Function generator (programmable VCO with square and triangular wave outputs); -55 to +125°C
NE567	Tone/frequency decoder PLL; 0 to +70°C
SE567	Tone/frequency decoder PLL; -55 to +125°C
NE568A	Phase-locked loop; up to 150 MHz; 0 to +70°C
SA568A	Phase-locked loop; up to 150 MHz; -40 to +85°C

TIMERS

ICM7555C	General purpose CMOS timer; 0 to +70°C
ICM7555I	General purpose CMOS timer; -40 to +85°C
NE555	Timer; o to +70°C
SA555	Timer; -40 to +85°C
SE555	Timer; -55 to +125°C
SE555C	Timer; -55 to +125°C
NE556	Dual timer; 0 to +70°C
NE556-1	Dual timer; lower VOL spec; 0 to +70°C
SA556	Dual timer; -40 to +85°C
SE556	Dual timer; -55 to +125°C
NE558	Quad timer; 0 to +70°C

Display drivers

LCD DISPLAY DRIVERS

LCD segment drivers

PCF2100C	LCD duplex driver
PCF2111C	LCD duplex driver
PCF2112C	Direct LCD driver
PCF8566	Universal LCD driver for low mux rates; I^2C-bus
PCF8576	Universal LCD driver for low multiplex rates; I^2C-bus
PCF8576C	Universal LCD driver for low multiplex rates; I^2C-bus
PCF8577C	LCD direct/duplex driver with I^2C-bus interface

Graphic LCD drivers

PCF8568	LCD row driver for dot matrix displays; I^2C-bus
PCF8569	LCD column driver for dot matrix graphic displays; I^2C-bus
PCF8578	LCD row/column driver for dot matrix graphic displays; I^2C-bus
PCF8579	LCD column driver for dot matrix graphic displays; I^2C-bus

Dot matrix character LCD drivers

PCF2104x	LCD controller/driver; I^2C-bus
PCF2113x	LCD controller for 1 line by 24 characters or 2 lines by 12 characters + 2 lines of up to 60 indicators; mux rate 1:18; on-chip Vop generation independent of Vdd; internal temp gradient compensation; power-down mode with icons; I^2C-bus
PCF2114x	LCD controller/driver; I^2C-bus
PCF2116x	LCD controller/driver; I^2C-bus

LED DISPLAY DRIVERS

NE587	LED decoder/driver; for 7-segments common anode LED displays
SAA1064	4-digit LED driver with I^2C-bus
TEA1017	13-bit serial-parallel converter and display driver

VACUUM DISPLAY DRIVERS

NE594	Vacuum fluorescent display driver; 0 to +70°C
SA594	Vacuum fluorescent display driver; -40 to +85°C

MOTOR CONTROL

NE5570	Brushless DC motor controller; 0 to +70°C
SA5570	Brushless DC motor controller; -40 to +85°C
TDA5140A	Brushless DC motor drive circuit; 0.8 A drive
TDA5141	Brushless DC motor drive circuit; 1.9 A drive
TDA5142	Brushless DC motor drive circuit; 0.2 A drive
TDA5143	Brushless DC motor drive circuit; 0.85 A drive
TDA5144	Brushless DC motor drive circuit; 2.0 A drive
TDA5145	Brushless DC motor control circuit; 2.0 A drive

Power supply ICs

SMPS CONTROLLERS

NE5560	Switched-mode power supply control circuit; 0 to +70°C
SE5560	Switched-mode power supply control circuit; -55 to +125°C
NE5561	Switched-mode power supply control circuit; 0 to +70°C
SE5561	Switched-mode power supply control circuit; -55 to +125°C
NE5562	Switched-mode power supply control circuit; 0 to +70°C
SE5562	Switched-mode power supply control circuit; -55 to +125°C
NE5565	Electronic ballast control circuit; 0 to +70°C
NE5568	Switched-mode power supply controller; 0 to +70°C
SG3524	SMPS control circuit; 0 to +70°C
TDA1023	Proportional-control triac triggering circuit
TDA1060	Control circuit for SMPS
TDA1060A	Control circuit for SMPS
TDA1060B	Control circuit for SMPS
TDA8380A	Control circuit for switched-mode power supplies
TDA8385	self-oscillating power supply controller; (SOPS)
TEA1039	Control circuit for switched-mode power supply
UC3842	Current-mode PWM controller

VOLTAGE REGULATORS

TDA3601AQ	Multiple-output voltage regulators; 6 regulated outputs
TDA3601Q	Multiple-output voltage regulators; 6 regulated outputs
TDA3602	Multiple-output voltage regulator; 3 regulated outputs
TDA3603	Multiple voltage regulator with switch
TDA3604	Multiple voltage regulator with external reset delay and switch
TDA3605	5 V regulator with reset and battery in/out
TDA3606	5 V regulator with reset and battery in/out
TDA3607	3 independent switchable voltage regulators
μA723	Precision voltage regulator; -55 to +125°C
μA723C	Precision voltage regulator; 0 to +70°C

SUPPLY VOLTAGE MONITORS

PCF1252-0	Power-fail detector and reset generator; trip voltage = 4.75 V ±50 mV
PCF1252-1	Power-fail detector and reset generator; trip voltage = 4.55 V ±50 mV
PCF1252-2	Power-fail detector and reset generator; trip voltage = 4.25 V ±50 mV
PCF1252-3	Power-fail detector and reset generator; trip voltage = 4.05 V ±50 mV
PCF1252-4	Power-fail detector and reset generator; trip voltage = 3.75 V ±50 mV
PCF1252-5	Power-fail detector and reset generator; trip voltage = 3.55 V ±50 mV
PCF1252-6	Power-fail detector and reset generator; trip voltage = 3.25 V ±50 mV
PCF1252-7	Power-fail detector and reset generator; trip voltage = 3.05 V ±50 mV
PCF1252-8	Power-fail detector and reset generator; trip voltage = 2.75 V ±50 mV
PCF1252-9	Power-fail detector and reset generator; trip voltage = 2.55 V ±50 mV

BATTERY MANAGEMENT

74LV4799	Timer for NiCd and NiMH chargers
SAA1500	State-of-charge indicator for NiMH and NiCd powered applications
SAA1501	Monitor and control circuit for rechargeable batteries
TEA1041	Battery low-level indicator
TEA1088	Switched-mode power supply battery charger control circuit
TEA1100	Battery monitor for NiCd chargers
TEA1101	Battery monitor for NiCd and NiMH chargers
TEA1102	Monitor and control circuit for NiMH/NiCd and Li-ion battery charging systems
TEA1401	Electronic power plug control IC with integrated MOSFET for low voltage and current regulated output

ANALOG CLOCK AND WATCH CIRCUITS

PCA14xx family of 32 kHz analog watch circuits

type number	period (s)	pulse width (ms)	drive (%)	detection criterion	EEPROM	battery EOL detection	remarks
PCA1461	1	7.8	max. 100 81	P = 1 N = 2	✓	✓	1.5 V and 2.1 V Li
PCA1462	1	5.8	max. 100 81	P = 1 N = 2	✓	✓	1.5 V and 2.1 V Li
PCA1463	1	3.9	max. 100 81	P = 1 N = 2	✓	✓	1.5 V and 2.1 V Li
PCA1465	1	5.8	max. 100	P = 1 N = 2	✓		1.5 V
PCA1466	5	5.8	max. 100 81	P = 1 N = 2			1.5 V and 2.1 V Li
PCA1467	1	7.8	100	P = 1 N = 2	✓		
PCA1484	20	5.8	75	P = 2 N = 3	✓		C_{in} = 8 pF 2.1 V C_{out} = 12 pF
PCA1485	1	5.8	75	P = 1 N = 2	✓	✓	
PCA1486	1	5.8	75	P = 1 N = 2	✓		
PCA1487	1	7.8	75	P = 2 N = 3	✓	✓	
PCA1488	0.5	7.8	75	P = 1 N = 2	✓		

PCA153x family of 32 kHz analog clock circuits

type number	period (s)	pulse width (ms)	current consumption (μA)		EEPROM
			typical	maximum	
PCA1534	1	46.8	2	5	no

PCA159x family of 32 kHz analog alarm clock circuits

type number	period (s)	pulse width (ms)	current consumption (μA)		EEPROM
			typical	maximum	
PCA1594	1	46.8	1.5	5	✓
PCA1596	1	15.6	1.5	5	✓
PCA1597	4	16.6	1.5	5	✓

Clocks and watches

PCA16xx family of 32 kHz analog watch circuits

type number	period (s)	pulse width (ms)	drive (%)	EEPROM	remarks
PCA1602	1	7.8	75	✓	
PCA1603	20	7.8	100	✓	
PCA1604	5	7.8	75	✓	
PCA1605	5	4.8	75	✓	
PCA1606	10	6.8	100	✓	
PCA1607	5	5.8	100 75	✓	1.5 V and 2.1 V Li
PCA1608	5	7.8	100 75	✓	1.5 V and 2.1 V Li
PCA1611	1	6.8	75	✓	
PCA1623	20	4.8	75	✓	
PCA1624	12	3.9	75 56	✓	1.5 V and 2.1 V Li
PCA1625	5	5.8	75	✓	
PCA1626	20	5.8	100	✓	
PCA1627	20	5.8	100 75	✓	1.5 V and 2.8 V Li
PCA1628	20	5.8	75	✓	
PCA1629	5	6.8	75	✓	
PCA1672	1	7.8	56		3 V Li
PCA1673	1	5.8	56		3 V Li
PCA1675	1/16	5.8	100		no oscillator
PCA1676	10	5.8	56		3 V Li
PCA1677	10	7.8	100		1.5 V

4.19 MHz DIGITAL CLOCKS

PCF1171C	4.19 MHz digital LCD car clock; 4-digits
PCF1172C	4.19 MHz digital LCD car clock; 3-1/2 digits
PCF1174C	4.19 MHz 4-digit static-LCD car clock; EEPROM
PCF1175C	4.19 MHz 4-digit duplex-LCD car clock; EEPROM
PCF1178C	4.19 MHz 4-digit duplex-LCD car clock; EEPROM; mirrored version of PCF1175; different colon and set frequency
PCF1179C	4.19 MHz 4-digit duplex-LCD car clock; EEPROM

CLOCK/CALENDAR CIRCUITS

PCF8573	Clock calendar with serial I/O; power-fail detect; I^2C-bus
PCF8583	Clock calendar with 256x8-bit static RAM; I^2C-bus
PCF8593	Low-power clock calendar; I^2C-bus

INTEGRATED CIRCUITS APPLICATION-SPECIFIC

Data communications

DIGITAL DATA COMMUNICATIONS

SC26C198	Octal universal asynchronous receiver/transmitter (UART)
SC26C198x1	Octal universal asynchronous receiver/transmitter (UART); commercial temp range
SC26L198x1	Octal universal asynchronous receiver/transmitter (UART); commercial temp range; 3.3V operation
SC26C562	CMOS dual universal serial communications controller (CDUSCC)
SC26C92	Dual universal asynchronous receiver/transmitter (DUART)
SC26C94	Quad universal asynchronous receiver/transmitter (QUART)
SC28C194x1	Quad universal asynchronous receiver/transmitter (UART)
SC28L194x1	Quad universal asynchronous receiver/transmitter (UART); industrial temp range
SC28L194	Quad universal asynchronous receiver/transmitter (UART); TTL compatible; commercial temp range; 3.3V operation
SC68C562	CMOS dual universal serial communications controller (CDUSCC)
SC68C94	Quad universal asynchronous receiver/transmitter (QUART)
SCC2691	Universal asynchronous receiver/transmitter (UART)
SCC2692	Dual asynchronous receiver/transmitter (DUART)
SCC2698B	Enhanced octal universal asynchronous receiver/transmitter (octal UART)
SCC68692	Dual asynchronous receiver/transmitter (DUART)
SCN2651	Programmable communications interface (PCI)
SCN2652	Multi-protocol communications controller (MPCC)
SCN26562	Dual universal serial communications controller (DUSCC)
SCN2661	Enhanced programmable communications interface (EPCI)
SCN2681	Dual asynynchronous receiver/transmitter (DUART)
SCN2681T	Dual asynchronous receiver/transmitter (DUART)
SC68C198x1	Octal universal asynchronous receiver/transmitter (UART); commercial temp range
SC68L198x1	Octal universal asynchronous receiver/transmitter (UART); commercial temp range; 3.3V operation
SCN68562	Dual universal serial communications controller (DUSCC)
SCN68652	Multi-protocol communications controller (MPCC)
SCN68681	Dual asynchronous receiver/transmitter (DUART)

LINEAR DATA COMMUNICATIONS

AM26LS31	Quad high-speed differential line driver
AM26LS32	Quad high-speed differential line receivers
AM26LS33	Quad high-speed differential line receivers
MC145406	EIA-232-D/V.28 driver/receiver
NE5180	Octal differential line receiver
NE5181	Octal differential line receiver
NE8392C	Coaxial transceiver interface for Ethernet/Thin Ethernet
NE8392C-2	Coaxial transceiver interface for Ethernet/Thin Ethernet
NE83C92	Low-power coaxial Ethernet transceiver
NE83Q92	Low-power coaxial Ethernet transceiver
NE83Q93	Enhanced coaxial Ethernet transceiver
NE86C92	Twisted-pair transceiver interface

I^{2}C-BUS CONTROLLERS AND I/O EXPANDERS

OM5027	I^{2}C-bus/LCD demo board
P82B715	I^{2}C-bus extender
PCF8574	Remote 8-bit I/O expander for I^{2}C-bus; 8 slave addresses (4xH)
PCF8574A	Remote 8-bit I/O expander for I^{2}C-bus; 8 slave addresss (7xH)
PCF8584	Parallel-bus to I^{2}C-bus converter
SAA1300	5 high-current outputs; I^{2}C-bus; 85 mA per output
S87C00KSD	8xC51 and I^{2}C-bus evaluation board

Data communications

INTEGRATED CIRCUITS APPLICATION-SPECIFIC

CAN/VAN CONTROLLERS

P82C150	CAN serial linked I/O device with digital and analog port functions
P8xC592	8-bit microcontroller with CAN 2.0A controller
P8xCE598	8-bit microcontroller with CAN 2.0A controller
PCA82C250	CAN controller interface; ISO/DIS standard; 1 Mbaud; over 110 nodes
PCC2008	Stand-alone VAN controller
PCx82C200	Stand-alone CAN controller; controller area network serial link

CAN evaluation boards

OM4130	CAN evaluation board with the 8xC552 and 82C200 CAN controller
OM4239	CAN evaluation board with the 8xC592 microcontroller (PEB592)
OM4240	CAN evaluation boardwith the 8xCE598 microcontroller (PEB598)
OM4272	SLIO evaluation boardwith the 82C150 and 82C250 CAN ICs

FUTUREBUS+ PRODUCTS

FB2012A	Futurebus+ central arbitration controller
FB2031	9-bit latched/registered/pass-thru Futurebus+ transceiver
FB2033	8-bit latched/registered/pass-thru Futurebus+ universal interface transceiver
FB2040A	8-bit Futurebus+ transceiver
FB2041	7-bit Futurebus+ transceiver

FIBRE-OPTIC PRODUCTS

NE5210	Transimpedance amplifier (280 MHz); 0 to +70°C
NE5211	Transimpedance amplifier (180 MHz); 0 to +70°C
NE5212A	Transimpedance amplifier (140 MHz); 0 to +70°C
NE5214	Fibre-optic post-amplifier with link status indicator; 75 MHz; 0 to +70°C
NE5217	Post-amplifier with link status indicator; fibre-optic; Schmitt trigger function; 0 to +70°C
NE5224	FDDI fibre-optic post-amplifier; 120 MHz; 100k ECL output; 0 to +70°C
NE5225	FDDI fibre-optic post-amplifier; 120 MHz; 10k ECL output; 0 to +70°C
SA5211	Transimpedance amplifier (180 MHz); -40 to +85°C
SA5212A	Transimpedance amplifier (140 MHz); -40 to +85°C
SA5214	Fibre-optic post-amplifier with link status indicator; 75 MHz; -40 to +85°C
SA5217	Post-amplifier with link status indicator; fibre-optic; Schmitt trigger function; -40 to +85°C
SA5222	Low-power FDDI transimpedance amplifier; 165 MHz; -40 to +85°C
SA5223	165 MHz transimpedance amplifier with AGC
SA5224	FDDI fibre-optic post-amplifier; 120 MHz; 100k ECL output; -40 to +85°C
SA5225	FDDI fibre-optic post-amplifier; 120 MHz; 10k ECL output; -40 to +85°C

Radio communications

PRESCALERS AND FREQUENCY SYNTHESIZERS

SA701	Devide by: 128/129 - 64/65 dual modulus low-power ECL prescaler; -40 to +85°C
SA702	Devide by: 64/65/72 triple modulus low-power ECL prescaler; -40 to +85°C
SA703	Devide by: 128/129/144 triple modulus low-power ECL prescaler; -40 to +85°C
UMA1005	Dual low-power frequency synthesizer
UMA1014	low-power frequency synthesizer for mobile radio communications
UMA1015	dual 1 GHz frequency synthesizer
UMA1017	Low-voltage frequency synthesizer for radio telephones; 1.25 GHz
UMA1018	Low-voltage dual frequency synthesizer for radio telephones; 1.25 GHz
UMA1019	Low-voltage frequency synthesizer for radio telephones; 2.4 GHz
UMA1019A	1.7 GHz general-purpose frequency synthesizer
UMA1020	Low-voltage dual frequency synthesizer for radio telephones; 2.4 GHz
UMA1020A	1.7 GHz general-purpose dual frequency synthesizer
UMA1021	Low-voltage frequency synthesizer for radio telephones; 300 to 2200 MHz
TDD1742	Low-power frequency synthesizer (LOPSY)
SA7025	Low-voltage 1 GHz fractional-N synthesizer; -40 to +85°C
SA8025A	Low-voltage 2 GHz fractional-N synthesizer; -40 to +85°C

AMPLIFIERS

High-frequency amplifiers

CGY2010	GSM 4 W power amplifier
CGY2030	DECT 0.6 W power amplifier
NE592	Video amplifier; 120 MHz unity gain bandwidth; 0 to +70°C
NE5200	RF dual gain stage; 0 to +70°C
SA5200	RF dual gain stage; -40 to +85°C
NE5204A	Wide-band high-frequency amplifier; 350 MHz; 0 to +70°C
SA5204A	Wide-band high-frequency amplifier; 350 MHz; -40 to +85°C
NE5205A	Wide-band high-frequency amplifier; 600 MHz; 0 to +70°C
SA5205A	Wide-band high-frequency amplifier; 600 MHz; -40 to +85°C
SE5205A	Wide-band high-frequency amplifier; 600 MHz; -55 to +125°C
NE5209	Wide-band variable gain amplifier; 850 MHz; 0 to +70°C
SA5209	Wide-band variable gain amplifier; 850 MHz; -40 to +85°C
NE5219	Wide-band variable gain amplifier; 700 MHz; 0 to +70°C
SA5219	Wideband variable gain amplifier; 700 MHz; -40 to +85°C
NE5539	High-frequency operational amplifier; 350 MHz unity gain; 0 to +70°C
SE5539	High-frequency operational amplifier;350 MHz unity gain; -55 to +125°C
NE5592	Video amplifier; Dual 110 MHz unity gain bandwidth amp; 0 to +70°C
TDA8780	True logarithmic amplifier; 72 db range

Audio amplifiers

See **Radio/Audio** section

MIXERS/MODULATORS/DEMODULATORS; FRONT-END CIRCUITS

NE600	1 GHz LNA and mixer; 0 to +70°C
SA600	1 GHz LNA and mixer; -40 to +85°C
SA601	Low-voltage LNA and mixer - 1 GHz; -40 to +85°C
NE602A	Double-balanced mixer and oscillator; 0 to +70°C
SA602A	Double-balanced mixer and oscillator; -40 to +85°C
NE612A	Double-balanced mixer and oscillator; 0 to +70°C
SA612A	Double-balanced mixer and oscillator; -40 to +85°C
SA620	Low voltage LNA, mixer and VCO - 1GHz; -40 to +85°C
SA621	Low voltage 2 GHz LNA, mixer and VCO; -40 to +85°C
MC1496	Balanced modulator/demodulator; 0 to +70°C
MC1596	Balanced modulator/demodulator; -55 to +125°C

SA1620	Low-voltage GSM front-end transceiver; -40 to +85°C
UAA2072	Image reject front-endfor GSM applications
UAA2073	Image reject front-end for GSM applications; 3.6 V supply
UAA2077A	Image reject front-end for DECT applications
UAA2077B	Image reject front-end for DCS/PCN applications

FM IF SYSTEMS

NE604A	High-performance low-power FM IF system; 0 to +70°C
SA604A	High-performance low-power FM IF system; -40 to +85°C
NE614A	Low-power FM IF system; 0 to +70°C
SA614A	Low-power FM IF system; -40 to +85°C
NE605	High-performance low-power mixer FM IF system; 0 to +70°C
SA605	High-performance low-power mixer FM IF system; -40 to +85°C
SA606	Low-voltage high-performance mixer FM IF system; -40 to +85°C
SA607	Low-voltage high-performance mixer FM IF system; -40 to +85°C
SA608	Low-voltage high-performance mixer FM IF system; -40 to +85°C
NE615	High-performance low-power mixer FM IF system; 0 to +70°C
SA615	High-performance low-power mixer FM IF system; -40 to +85°C
SA616	Low-voltage high-performance mixer FM IF system; -40 to +85°C
SA617	Low-voltage high-performance mixer FM IF system; -40 to +85°C
NE624	High-performance low-power FM IF system with high-speed RSSI; 0 to +70°C
SA624	High-performance low-power FM IF system with high-speed RSSI; -40 to +85°C
NE625	High-performance low-power mixer FM IF system with high-speed RSSI; 0 to +70°C
SA625	High-performance low-power mixer FM IF system with high-speed RSSI; -40 to +85°C
SA626	Low-voltage high-performance mixer FM IF system with high-speed RSSI; -40 to + 85°C
NE627	High-performance low-power mixer FM IF system with high-speed RSSI; 0 to +70°C
SA627	High-performance low-power mixer FM IF system with high-speed RSSI; -4- to +85°C
SA636	Low-voltage high-performance mixer FM IF system with high-speed RSSI; -40 to +85°C
SA637	Low-voltage digital IF receiver; -40 to +85°C
SA639	Low-voltage mixer FM IF system with filter amplifier and data switch; -40 to +85°C
SA676	Low-voltage mixer FM IF system; -40 to +85°C
SA1638	Low-voltage IF I/Q transceiver; -40 to +85°C
SA2420	Low-voltage 2.4 GHz transceiver; -40 to +85°C
UAA2067	Image reject 1800 MHz transceiver for DECT applications
MC3361	Low-power FM IF; -40 to +85°C

BASEBAND PROCESSORS: AUDIO AND DATA

UMA1000L	Data processor for cellular radio (DPROC); 3 V supply voltage
UMF1000	Data processor for cellular radio
PCD5032	ADPCM CODEC for digital cordless telephone
PCD5040	DECT burst-mode controller; RAM version; base station + handset
PCD5041	DECT burst-mode controller; ROM version; handset
PCD5042	DECT burst-mode controller; ROM version; base station
PCF5072	GSM baseband & audio interface
PCF5075	Power amplifier controller for GSM and PCN systems
PCF5083	GSM baseband DSP & TDMA timer
PCD5091	DECT single baseband processor; ABC-chip; handset
PCD5092	DECT single baseband processor; ABC-chip; base station
PCD5093	DECT baseband processor; ABC-chip; key systems and small CPBX
NE5750	Audio processor - companding and amplifier section; 0 to +70°C
SA5750	Audio processor - companding and amplifier section; -40 to +85°C
NE5751	Audio processor - filter and control section; 0 to +70°C
SA5751	Audio processor - filter and control section; -40 to +85°C
SA5752	Audio processor - companding, VOX and amplifier section; -40 to +85°C
SA5753	Audio processor - filter and control section; -40 to +85°C

COMPANDORS

NE570	Compandor; 0 to +70°C
NE571	Compandor; 0 to +70°C
SA571	Compandor; -40 to +85°C
NE572	Programmable analog compandor; 0 to +70°C
SA572	Programmable analog compandor; -40 to +85°C
NE575	Low-voltage compandor; dual expander/single compressor; 0 to +70°C
SA575	Low-voltage compandor; dual expander/single compressor; -40 to +85°C
NE576	Low-power compandor; 0 to +70°C
SA576	Low-power compandor; -40 to +85°C
NE577	Unity gain level programmable low-power compandor; 0 to +70°C
SA577	Unity gain level programmable low-power compandor; -40 to +85°C
NE578	Unity gain level programmable low-power compandor; 0 to +70°C
SA578	Unity gain level programmable low-power compandor; -40 to +85°C

TRANSMITTERS

NE630	Single-pole double-throw (SPDT) switch; 0 to +70°C
SA630	Single-pole double-throw (SPDT) switch; -40 to +85°C
SA900	I/Q transmit modulator; -40 to +85°C

PAGERS AND DATA RECEIVERS

OM4031	Digital post-detection filter for FSK data receivers
PCD5002	APOC pager decoder
PCD5003	Advanced POCSAG paging decoder
PCF5001	POCSAG paging decoder
UAA2050	Low-power digital UHF paging receiver
UAA2080	Advanced pager receiver; 25 to 512 MHZ frequency range
UAA2082	Advanced pager receiver
UMA1002	DPROC

MISCELLANEOUS ICs

NE5044	Programmable 7-channel RC encoder; 0 to +70°C

TELEPHONE SETS

Diallers

DTMF diallers

PCD3311C	DTMF/modem/musical-tone generator; parallel data input; I^{2}C-bus
PCD3312C	DTMF/modem/musical-tone generator; I^{2}C-bus

Pulse/DTMF diallers

PCD3310	Pulse and DTMF dialler with redial; 4x5 keypad; flash; mark/space ratio 2:1; PABX register; notepad; access pause control
PCD3310A	Pulse and DTMF dialler with redial; PCD3310 with 3:2 mark/space ratio

Repertory diallers/ringers

PCD3330-1	Multistandard repertory dialler/ringer with EEPROM
PCD3332-2	Multistandard pulse/tone dialler/ringer
PCD3332-3	Multistandard pulse/tone dialler/ringer
PCD3332-S	Multistandard pulse/tone repertory dialler/ringer
UBA1702	High-voltage DMOS interruptor controller and ringer for MOS switch
UBA1702A	High-voltage DMOS interruptor controller and ringer for Bipolar switch

Speech/transmission circuits

PCA1070	Programmable analog CMOS transmission IC
TEA1060	Versatile telephone transmission circuit with dialler interface; low impedance input for dynamic or magnetic microphone
TEA1061	Versatile telephone transmission circuit with dialler interface; high impedance input for electret or piezoelectric microphone
TEA1062	Low-voltage versatile telephone transmission circuit with dialler interface; high impedance input for dynamic, magnetic, piezoelectric, or electret microphone
TEA1062A	Low-voltage versatile telephone transmission circuit with dialler interface; active LOW mute
TEA1063	Interface for long lines
TEA1064A	Low-voltage versatile telephone transmission circuit with dialler interface and transmit-level dynamic limiting; 20 to 45 dB earpiece output
TEA1064B	TEA1064A with one-ground arrangement
TEA1065	Versatile telephone transmission circuit with dialler interface; high impedance input for electret or piezoelectric microphone; mainly for the French market
TEA1066	Versatile telephone transmission circuit with dialler interface
TEA1067	Low-voltage versatile telephone transmission circuit with dialler interface; supports all microphone types
TEA1067A	Low-voltage versatile telephone transmission circuit with dialler interface; improved TEA1067
TEA1068	Versatile telephone transmission circuit with dialler interface; supports all microphone types
TEA1112	Line interface for parallel operation with improved EMC performance
TEA1112A	Line interface for parallel operation with improved EMC performance
TEA1113	Line interface for parallel operation with improved EMC performance

Loudspeaking facilities

TEA1081	Supply circuit with power-down for telephone set peripherals
TEA1083	Call progress monitor for line-powered telephone sets
TEA1083A	Call progress monitor for line-powered telephone sets; power-down input
TEA1085	Listening-in circuit for line-powered telephone sets; start-up in standby condition
TEA1085A	Listening-in circuit for line-powered telephone sets; standby input pin
TEA1093	Hands-free IC
TEA1094	Hands-free IC
TEA1095	Voice-switched speakerphone
TEA1096	Speech and listening-in IC; adjustable supply voltage
TEA1096A	Speech and listening-in IC; fixed supply voltage and DC volume control
PCD3360	Programmable multi-tone telephone ringer
PCD4440	Analog voice scrambler/descrambler; I^{2}C-bus

Microcontrollers
See also **Microcontrollers** section

PCD3300 family of 8-bit CMOS microcontrollers

type number	ROM	RAM	speed (MHz)	major features	remarks
PCD3344A	2k ROM	224	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
PCD3349A	4k ROM	224	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	2.5 to 6 V supply voltage
PCD3350A	8k ROM 256 EEPROM	256	16	four 8-bit I/O ports; one 2-bit I/O port; two 8-bit counter/timers; DTMF tone generator; 3.58 or 10.74 MHz clock for DTMF; real-time clock	1.8 to 6 V supply voltage
PCD3351A	2k ROM 128 EEPROM	64	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	1.8 to 6 V supply voltage
PCD3352A	4k ROM 128 EEPROM	128	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	1.8 to 6 V supply voltage
PCD3353A	6kROM 128 EEPROM	128	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	1.8 to 6 V supply voltage
PCD3354A	8k ROM 256 EEPROM	256	16	four 8-bit I/O ports; one 4-bit I/O port; two 8-bit counter/timers; DTMF tone generator; 3.58 or 10.74 MHz clock for DTMF	1.8 to 6 V supply voltage
PCD3359A	2k ROM 128 EEPROM	64	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	1.8 to 6 V supply voltage
PCD3755A	8k OTP 256 EEPROM	128	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF	1.8 to 6 V supply voltage
PCD3755E	8k OTP 256 EEPROM	128	16	PCD3755A with different output configuration	1.8 to 6 V supply voltage
PCD3756A	8k OTP 128 EEPROM	128	16	two 8-bit I/O ports; one 4-bit I/O port; 8-bit counter/timer; DTMF tone generator; 3.58 MHz clock for DTMF; port-0 wake-up interrupt; emulates PCD3359A	1.8 to 6 V supply voltage

CORDLESS TELEPHONES
See also **Radio communications** section

PAGERS AND DATA RECEIVERS
See **Radio communications** section

Identification & Security

SMART CARD CONTROLLERS AND INTERFACES

P83C852	Secured 8-bit microcontroller with 80C51-architecture and crypto-calculation unit; 6k8 ROM, 256x8 RAM, 2k8 EEPROM, 2 I/O lines, 2 16-bit timers; clock frequency 6 MHz; idle and power-down mode; security features for smart card applications
P83C855	Secured 8-bit microcontroller with 80C51-architecture and fast crypto-calculation unit (FAME); 16k8 + 4k8 ROM, 512x8 RAM, 2k8 EEPROM, 2 I/O lines, 2 16-bit timers; clock frequency 8 MHz; idle and power-down mode; enhanced security features for smart card applications
P83C858	Secured 8-bit microcontroller with 80C51-architecture and fast crypto-calculation unit (FAME); 16k8 + 4k8 ROM, 512x8 RAM, 8k8 EEPROM, 2 I/O lines, 2 16-bit timers; clock frequency 8 MHz; idle and power-down mode; enhanced security features for smart card applications
P83C864	Secured 8-bit microcontroller with 80C51-architecture for smart card applications with programmed calculation; 16k8 + 4k8 ROM, 256x8 RAM, 4k8 EEPROM, 2 I/O lines, 2 16-bit timers; clock frequency 8 MHz; idle and power-down mode; enhanced security features
P83C868	Secured 8-bit microcontroller with 80C51-architecture for smart card applications with programmed calculation; 16k8 + 4k8 ROM, 256x8 RAM, 8k8 EEPROM, 2 I/O lines, 2 16-bit timers; clock frequency 8 MHz; idle and power-down mode; enhanced security features
TDA8000	Smart card interface; ISO 7816
TDA8001	Smart card interface; ISO 7816
TDA8002	Universal IC card interface; ISO 7816
TDA8005	Smart card coupler and microcontroller
TDA8006	Multi-protocol IC card coupler including CL51 microcontroller

VALUE CARD / MEMORY CARD PRODUCTS

PCF2032	Memory Card IC with 256x8 EEPROM and write protection
PCF2042	Memory Card IC with 256x8 EEPROM and additional security memory area for Security Code protection of write operation
PCF2036	Secured memory card IC with 221-bit EEPROM and authentication unit
PCF2006	Debit card IC with 104-bit and transport-code protection

CONTACTLESS RF-IDENTIFICATION TRANSPONDERS

PCF79730S	Programmable read/write transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; stick-shaped plastic package
PCF79530C	Programmable read/write transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; coin-shaped plastic package
PCF79731S	Programmable read-only transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; stick-shaped plastic package
PCF79531C	Programmable read-only transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; coin-shaped plastic package
PCF79732S	Programmable read/write transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; block-write protection; stick-shaped plastic package
PCF79532C	Programmable read/write transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; block-write protection; coin-shaped plastic package
PCF79733S	Programmable read-only transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; block-write protection; stick-shaped plastic package
PCF79533C	Programmable read-only transponder for contactless applications; 1024-bit EEPROM; 125 kHz carrier frequency; block-write protection; coin-shaped plastic package
PCF79735S	Secured programmble read/write transponder for contactless applications; 1152-bit EEPROM; 125 kHz carrier frequency; calculation unit; enhanced security features; stick-shaped plastic package (see note)
PCF79535C	Secured programmble read/write transponder for contactless applications; 1152-bit EEPROM; 125 kHz carrier frequency; calculation unit; enhanced security features; stick-shaped plastic package; (see note)
PCF7990	Base station IC with transparent operation in RF-linked transponder applications; 100 mA antenna drive current at 125 kHz carrier frequency

MISCELLANEOUS CIRCUITS

TEA5500	Coded locking circuit for security systems; over 59000 combinations
TEA5501	Coded locking circuit for security systems (one-shot output; 6.5k codes)

Note:
For security reasons, most datasheets for smart/memory/value card ICs are subjected to distribution limitations. Full specifications are available as personalized copies only and form part of a non-disclosure agreement. Some smart card controller ICs with crypto calculation features are subjected to export regulations.

Radio/Audio

RADIO RECEIVERS

AM receivers

TDA1072A	AM receiver circuit; for car radios
TDA1572	AM receiver; for AM stereo car radios
TEA5551	Single-chip AM radio; dual AF amplifier; for pocket receivers with headphones
TEA6200	AM upconversion radio receiver; 10.7 MHz IF

AM/FM receivers

TEA5570	RF/IF circuit for AM/FM radio
TEA5591	AM/FM radio receiver circuit
TEA5591A	AM/FM radio receiver circuit
TEA5594	AM/FM radio receiver circuit; for eloctronically-tuned radios
TEA5710	AM/FM radio receiver circuit
TEA5711	AM/FM stereo radio circuit
TEA5712	AM/FM stereo DTS radio circuit
TEA5757	Self tuned AM/FM radio receiver with stereo decoder
TEA5759	Self tuned AM/FM radio receiver with stereo decoder for Japanese band
TEA5762	Self tuned AM/FM radio receiver with stereo decoder for CENELEC applications

FM receivers

TDA1574	Integrated FM tuner for radio receivers
TDA1575	FM front-end circuit for CENELEC EN55020 applications
TDA1576	FM/IF amplifier/demodulator
TDA1596	IF amplifier/demodulator for FM radio receivers
TDA1597	IF amplifier/demodulator for FM radio receivers
TDA1599	IF amplifier/demodulator for FM radio recivers
TDA7000	FM radio circuit
TDA7010	FM radio circuit
TDA7021	FM radio circuit; stereo/mono
TDA7088	FM receiver circuit for battery supply; with search tuning
TDB1080	IF limiting amplifier, FM detector and audio amplifier
TEA6100	FM/IF system for microcomputer-based tuning interface; I^2C-bus

Precision adjacent channel selectivity (PACS)

TEA6850	Precision adjacent channel selectivity PACS circuit

Combi circuits

TEA6810	Front-end and PLL synthesizer for car radios
TEA6811	AM/FM RF and PLL synthesizer circuit
TEA6821	ICE car radio
TEA6822	AM/FM IF, stereo decoder and NC circuit

FREQUENCY/VOLTAGE SYNTHESIZERS

SAA1057	Radio tuning PLL frequency synthesizer
SAA1300	Tuner switching circuit
TSA6057	Radio tuning PLL frequency synthesizer; I^2C-bus
TSA6060	Fast radio tuning PLL frequency synthesizer; I^2C-bus; RDS

VWF AND RDS SIGNAL DECODERS

SAA6579	Radio data system demodulator (RDS); 57 kHz integrated filter
TDA1579	Decoder for traffic warning (VWF) radio transmissions; AM carriers; ARI system
TDA1581	Decoder for traffic warning (VWF) radio tranmissions; AM carriers; ARI system

ANTENNA DIVERSITY

TEA6101	Antenna diversity circuit

SATELLITE RADIO RECEIVER CIRCUITS

SAA2530	ADR/DMX digital receiver
SAA7500	Digital satellite radio braodcasting tuner decoder (SAT-2)
SAA7501	Digital satellite radio braodcasting tuner decoder

STEREO DECODERS

TDA1591	PLL stereo decoder and noise blanker; interference suppression
TDA1592	PLL stereo decoder and noise blanker
TDA7040	Low-voltage PLL stereo decoder
TEA5581	PLL stereo decoder; source selector switch; medium-fi and car radios

NOISE SUPPRESSORS

TDA1001B	Interference and noise suppression circuit for FM receivers

AUDIO CIRCUITS

Bus-controlled

TEA6300	Car radio preamplifier and source selector with sound and fader controls; I^{2}C-bus
TEA6320	Sound fader control circuit; I^{2}C-bus; loudness function; zero-cross detection
TEA6321	Sound fader control circuit
TEA6322	Sound fader control circuit; I^{2}C-bus
TEA6323	Sound fader control circuit; I^{2}C-bus
TEA6330	Sound fader control circuit for car radios; I^{2}C-bus
TEA6360	Five-band equalizer; I^{2}C-bus

DC-controlled

TDA1029	Signal-sources switch;4 x two chanenels
TDA1074A	Dual tandem electronic potentiometer circuit
TDA1524A	Stereo tone/volume control circuit
TDA1526	Stereo tone/volume control circuit

DOLBY CIRCUITS

TEA0665	Dolby B & C processor with pre-amplifier and electronic switch
TEA0675	Dual Dolby B noise reduction circuit for playback applications
TEA0678	Dual Dolby B noise reduction circuit for playback applications

AUDIO CASSETTE RECORDER CIRCUITS

TDA1522	Stereo-cassette head amplifier
TDA1523	Stereo head amplifier and equalizer
TDA1602A	Double-deck playback/record IC (DDPR); stereo; for high quality 12 V portables; performs all recorder functions
TEA0676	Dual head pre-amplifier
TEA0677	Dual pre-amplifier and equalizer for reverse tape decks

Radio/Audio

VOLTAGE REGULATORS

See **Power supply ICs** section

AUDIO AMPLIFIERS

TDA1010A	6 W audio power amplifier for in-car applications/ 10 W audio power amplifier for mains-fed applications
TDA1011	2 to 6 W audio power amplifier with preamplifier
TDA1013B	4 W audio power amplifier with DC volume control
TDA1015	1 to 4 W audio power amplifier; with preamplifier
TDA1015T	0.5 W audio power amplifier; with preamplifier
TDA1016	Recording/playback and 2 W audio power amplifier; preamplifier; automatic level control; short-circuit and termal protection
TDA1020	12 W car radio audio power amplifier; with preamplifier
TDA1308	Class AB stereo headphone driver; 60 mW
TDA1510AQ	24 W BTL or 2x12 W stereo car radio power amplifier
TDA1514A	50 W high-performance hi-fi amplifier; mute/standby
TDA1515BQ	24 W BTL or 2x12 W sterio car radio power amplifier; loudspeaker protection; externally adjustable gain
TDA1516BQ	22 W BTL or 2x11 W steroe car radio power amplifier; 20/26 dB gain stereo/BTL
TDA1516CQ	22 W BTL car radio power amplifier; 20 dB gain
TDA1517	2x6 W stereo car radio power amplifier; 20dB gain
TDA1518BQ	22 W BTL or 2x11 W stereo car radio power amplifier; 40/46 dB gain stereo/BTL
TDA1519	2x6 W stereo car radio power amplifier; 40 dB gain
TDA1519A	22 W BTL or 2x11 W stereo car radio power amplifier; 40/46 dB gain stereo/BTL
TDA1519B	12 W BTL or 2x6 W stereo car radio power amplifier; 40/46 dB gain stereo/BTL
TDA1521	2x12 W hi-fi stereo audio power amplifier; automatic mute
TDA1521A	2x6 W hi-fi stereo audio power amplifier; automatic mute
TDA1521AQ	2x12 W hi-fi stereo audio power amplifier; automatic mute
TDA1521Q	2x12 W hi-fi stereo audio power amplifier; automatic mute
TDA1551Q	2x22 W BTL car radio power amplifier with diagnostic facility; I^{2}C-bus; 20/26 dB gain stereo/BTL
TDA1552Q	2x22 W BTL stereo car radio power amplifier; double BTL amplifier
TDA1553CQ	2x22 W stereo BTL car radio power amplifier with loudspeaker protection; 26 dB gain
TDA1553Q	2x22 W stereo BTL car radio power amplifier; loudspeaker protection; mute/standby switch
TDA1554Q	4x11 W single-ended or 2x22 W audio power amplifier
TDA1555Q	4x11 W single-ended or 2x22 W power amplifier with distortion detector
TDA1556Q	2x22 W stereo BTL differential amplifier; loudspeaker protection; 26 dB gain
TDA1557Q	2x22 W stereo BTL car radio power amplifier with speaker protection; loudspeaker protection; 46 dB gain
TDA1558Q	4x11 W or 2x22 W sigle-ended car radio power amplifier; 40/46 dB gain stereo/BTL
TDA1560Q	40 W car radio high power amplifier
TDA1561Q	2x23 W car radio power amplifier
TDA1562Q	70 W class-H audio power amplifier; (14.4 V and 4 Ω)
TDA2611A	5 W audio power amplifier; adjustable input impedance
TDA2613	6 W hi-fi audio power amplifier; automatic mute
TDA2614	6 W hi-fi audio power amplifier; automatic mute
TDA2615	2x6 W hi-fi audio power amplifier; automatic mute
TDA2616	2x12 W hi-fi audio power amplifiers with mute; SIL9P
TDA2616Q	2x12 W hi-fi audio power amplifiers with mute; DBS9P
TDA7050	Low-voltage mono/stereo power amplifier; 150 mW BTL or 2x75 mW
TDA7052	1 W BTL mono audio amplifier
TDA7052A	1 W BTL mono audio amplifier with DC volume control
TDA7052AT	0.5 W BTL mono audio amplifier with DC volume control
TDA7052B	Mono BTL audio amplifier with DC volume control; 1 W, 40 dB gain
TDA7052BT	Mono BTL audio amplifier with DC volume control; 0.5 W, 40 dB gain
TDA7053	2x1 W stereo power amplifier
TDA7053A	Stereo BTL audio output amplifiers with DC volume control
TDA7053AT	2x0.5 W BTL stereo audio power amplifier (40dB) with DC volume control

TDA7056	3 W BTL mono audio output amplifier
TDA7056A	3 W BTL mono audio output amplifier with DC volume control
TDA7056B	3 W mono BTL audio amplifier with DC volume control
TDA7057AQ	2x3 W stereo BTL audio output amplifier with DC volume control
TDA7057Q	2x3 W BTL audio output amplifier
TDA8541	Mono 1 W/8 Ω amplifier (5 V) for multimedia, PC and portable
TDA8542	Stereo 1 W/8 Ω amplifier (5 V) and/or servo driver
TDA8559	Stereo headphone and line driver; V_p = 1.8 to 30 V
TDA8560Q	2x40 W/2 Ω stereo BTL car radio power amplifier with diagnostic facility
TDA8561Q	2x24 W BTL or 4x12 W single-ended car radio power amplifier
TDA8562Q	4x12 W single-ended car radio power amplifier with dynamic distortion detector and diagnostic interface
TDA8563Q	2x40 W/2 Ω stereo BTL car radio power amplifier with diagnostic facility
TDA8564Q	2x24 (4x7) W car radiopower amplifier with diagnostic and high gain (46/40 dB)
TDA8565Q	4x12 W single-endes car radio power amplifier with diagnostic interface; 40dB gain
TDA8574	Hi-Fi 5 V class-H line driver
TDA8575	Hi-Fi ground isolator
TDA8577	Dual common-mode rejection differential line receiver
TDA8578	Dual common-mode rejection differential line receiver
TDA8579	Dual common-mode rejection differential line receiver
TDA8580Q	Multi-purpose power amplifier

COMPACT DISC CIRCUITS (CD)

CD decoder/encoder

SAA7345	CMOS decoder for Compact Disc with SRAM and digital filter
SAA7345/LV	CMOS decoder for Compact Disc with SRAM and digital filter; low-voltage selection
SAA7345/SS	CMOS decoder for Compact Disc with SRAM and digital filter; single-speed selection
SAA7345/TT	CMOS decoder for Compact Disc with SRAM and digital filter; triple-speed selection
SAA7370	Quadruple speed single chip CD-decoder and digital servo controller
SAA7372	Double speed single chip CD-decoder and digital servo controller]
SAA7374	Low-voltage digital servo processor and Compact Disc decoder (CD7LV)
SAA7376	Single speed single chip CD-decoder and digital servo controller

Servo control

TDA1300	Low voltage diode amplifier laser power (DALAS2)
TDA1301	Digital servo processor; (DSIC2)
TDA1302	Diode amplifier laser power control (DALAS)

CD driver circuits

TDA1303	Digital servo driver (DSD1)
TDA7072A	Bingle BTL power driver; 0.6 A drive
TDA7073	Dual power driver; 0.6 A drive
TDA7073A	Dual BTL power driver; 0.6 A drive

CD-ROM block decoders

SAA7380	Quadruple speed CD-ROM blockdecoder with AT and Atapi interface
SAA7382	Double speed CD-ROM blockdecoder with AT and Atapi interface
SAA7385	High-speed CD-ROM blockdecoder with SCSI-2 interface with SCAM
SAA7390	High-speed blockdecoder/encoder for CD-recordable

Video-CD decoders

SAA2510	Video-CD MPEG-Audio/Video decoder cicuit

Radio/Audio

DIGITAL COMPACT CASSETTE CIRCUITS (DCC)

PASC processors

SAA2002	Stereo filter and CODEC
SAA2003	Stereo filter CODEC
SAA2012	Adaptive allocation and scaling for record processing in DCC systems
SAA2013	Adaptive allocation and scaling for PASC coding in DCC systems; (ADAS3)

Tape drive processors

SAA2022	Tape formatting and error correction for the DCC system
SAA2023	Drive processor for DCC systems
SAA2032	Digital equalization for the tape drive processing of the DCC system
SAA3323	Drive processor for DCC systems; (DPR3)

Read/Write amplifiers

TDA1316	DCC write amplifier; (WRITE1)
TDA1317	DCC read amplifier; (READ1)
TDA1318	DCC read amplifier; (READ2)
TDA1319	DCC write amplifier (WRITE2)
TDA1380	DCC read amplifier (READ3)
TDA1381	DCC write amplifier (WRITE3)
TDA1383	DCC record/playback amplifier (RW4)

MISCELLANEOUS DIGITAL AUDIO CIRCUITS

SAA3300	One-chip DCC signal processor
SAA7346	Compact Disk electronic shock absorbing RAM addresser
TDA1315	Digital audio input/output circuit (DAIO)
TDA1373	General digital input (GDIN)

MPEG AUDIO ENCODERS/DECODERS

SAA2500	ISO/MPEG layer 1 and 2 audio source decoder (general purpose)
SAA2501	ISO/MPEG layer 1 and 2 audio source decoder especially for DAB applications
SAA2502	Improved ISO/MPEG layer 1 and 2 audio source decoder
SAA2520	Stereo filter codec; for MPEG layer 1
SAA2521	Masking threshold processor; for MPEG layer 1

DSP CIRCUITS

SAA7707	CAR DSP circuit
SAA7710	Dilby prologic DSP; I^{2}S input and output
SAA7740	Digital audio processing circuit (DAPIC)

AUDIO AD AND DA CONVERTERS

D/A converters

TDA1305	Bitstream continuous calibration DAC with up-sampling filter
TDA1305A	Bitstream continuous calibration DAC with up-sampling filter
TDA1306	Noise shaping filter DAC
TDA1307	High-performance bitstream digital filter
TDA1310A	Stereo continuous calibration DAC (CC-DAC)
TDA1311A	Stereo continuous calibration DAC (CCDAC)
TDA1312A	Stereo continuous calibration DAC (CC-DAC)
TDA1313	Stereo continuous calibration DAC (CC-DAC)
TDA1314	Quad filter DAC

TDA1386	Bitstream continuous calibration DAC with up-sampling filter
TDA1387	Stereo continuous calibration DAC (CC-DAC)
TDA1541A	Dual 16-bit DAC
TDA1541A/S1	Dual 16-bit DAC; single crown
TDA1541A/S2	Dual 16-bit DAC; double crown
TDA1543	Dual 16-bit DAC (economy version) (I2S input format)
TDA1545A	Stereo continuous calibration DAC; 16-bit
TDA1546	Filter DSP bitstream conversion DAC
TDA1547	Dual top-performance bitstream DAC
TDA1548	Low power DSP bitstream conversion DAC
TDA1549	Bitstream continuous calibration DAC

A/D converters

SAA7360	Bitstream conversion stereo ADC for digital audio
SAA7361	Premium-grade bitstream ADC
SAA7366	Bitstream conversion ADC; for digital audio
SAA7367	Economy bitstream ADC

ADDA converters

TDA1309	Low-voltage AD/DA converter

CONTROL CIRCUITS

Microcontrollers
See **Microcontrollers** section

Memories
See **Memories** section

See **Support circuits for Radio/Audio and Video** section for:
- Clock/calendar ICs
- I^{2}C-bus controllers and I/O expanders
- Remote controllers

Display drivers
See **Display drivers** section

TUNER AND TUNING

Tuner

TDA5030A	TV VHF mixer/oscillator/UHF preamplifier
TDA5330	VHF, UHF and hyperband mixer/oscillator for TV and VCR 3-band tuners
TDA5331	VHF, UHF and hyperband mixer/oscillator for TV and VCR 3-band tuners
TDA5332	Double mixer/oscillator for TV and VCR tuners
TDA5333	Double mixer/oscillator for TV and VCR tuners
TDA5630	3-band mixer/oscillator; 9V
TDA5630A	9V, VHF/UHF/hyperband mixer/oscillator
TDA5630B	Low-power VHF/UHF/hyperband mixer/oscillator for TV and VCR 2-band tuners
TDA5630C	Low-power VHF/UHF/hyperband mixer/oscillator for TV and VCR 3-band tuners
TDA5631	3-band mixer/oscillator; 9 V; TDA5630 with reversed pinning
TDA5632	9V, VHF/UHF mixer/oscillator
TDA5633	9 V, VHF/UHF mixer oscillator; mirror TDA5632
TDA5634	UHF mixer/oscillator; 9 V
TDA5636	9V, VHF/UHF/hyperband mixer/oscillator
TDA5636B	Low-power VHF/UHF/hyperband mixer/oscillator for TV and VCR 3-band tuners
TDA5637	9V, VHF/UHF/hyperband mixer/oscillator
TDA5637B	Low-power VHF/UHF/hyperband mixer/oscillator for TV and VCR 3-band tuners
TDA5731	5V, VHF/UHF/hyperband mixer/oscillator
TDA5732	5V, VHF/UHF F.E. mixer/oscillator
TDA5736	5 V, VHF/UHF/hyperband mixer/oscillator; mirror TDA5737
TDA5737	5V, VHF/UHF/hyperband mixer/oscillator
TDA6402	5V, VHF/UHF mixer/oscillator for PLL one-chip
TDA6403	5V, VHF/UHF mixer oscillator for PLL one-chip; reverse pinning of TDA6402

Tuning

SAB6456A	Sensitive 1.3 GHz devide-by-64/divide-by-256 switchable prescaler
SAB6457A	Devide-by-64/divide-by-256 switchable prescaler
TSA5511	1.3 GHz bidirectional I^2C-bus contolled synthesizer; 8 bus-controlled ports
TSA5511AT	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 5 bus-controlled ports
TSA5511T	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 5 bus-controlled ports
TSA5512	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 8 bus-controlled ports
TSA5512AT	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 6 bus-controlled ports
TSA5512T	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 6 bus-controlled ports
TSA5514	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 7 bus-controlled ports
TSA5514AT	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 7 bus-controlled ports
TSA5515	1.3 GHz bidirectional I^2C-bus controlled synthesizer; 3 bus-controlled ports
TSA5518	1.3 GHz bidirectional I^2C-bus controlled synthesizer
TSA5520	1.3 GHz PLL frequency synthesizer; 3 wire
TSA5521	1.3 GHz PLL frequency synthesizer; 3 wire
TSA5522	1.3 GHz PLL frequency synthesizer; I^2C-bus
TSA5526	1.3 GHz PLL frequency synthesizer; I^2C/3 wire
TSA5526A	1.3 GHz universal bus-controlled TV synthesizer; I^2C/3 wire
TSA5527	1.3 GHz PLL frequency synthesizer; I^2C-bus/3 wire
TSA5527A	1.3 GHz universal bus-controlled TV synthesizer; I^2C/3 wire

VISION AND SOUND IF

Vision IF

TDA2549	IF amplifier and demodulator for multistandard TV receivers
TDA3840	TV IF amplifier and demodulator with TV signal identification
TDA3842	Multistandard TV IF amplifier and demodulator with TV signal identification TV signal identification
TDA3851	Multistandard TV IF amplifier and demodulator with input source switch
TDA3852	Multistable TV IF amplifier and demodulator (MAC incl.) with TV signal identification
TDA3853	TV IF amplifier and demodulator with TV signal identification
TDA8340	Television IF amplifier and demodulator; n-p-n tuners

TDA8341	Television IF amplifier and demodulator; p-n-p tuners
TDA8349A	Multistandard IF amplifier and demodulator
TDA9800	VIF-PLL demodulator and FM-PLL detector
TDA9802	Multistandard VIF-PLL demodulator and FM-PLL detector
TDA9803	Multistandard VIF-PLL demodulator
TDA9804	VIF-PLL demodulator with internal or external AGC and FM-PLL detector
TDA9806	Multistandard VIF-PLL and FM-PLL demodulator
TDA9808	Single standard QSS-VIF and FM demodulator
TDA9811	Multistandard VIF-PLL with QSS-IF and AM demodulator
TDA9812	Multistandard VIF-PLL with AM/FM PLL demodulator
TDA9813	Single-standard VIF-PLL-GSS device with dual FM demodulator
TDA9814	Multistandard VIF/SIF PLL, AM&FM demodulator
TDA9815	Multistandard/MAC VIF-PLL with QSS-IF and dual FM-PLL/AM demodulator

Sound IF

Quasi split sound (QSS)

TDA2545A	Quasi-split-sound circuit; gain-controlled IF amplifier
TDA2546A	Quasi-split-sound circuit with 5,5 MHz demodulation
TDA2556	Quasi-split-sound circuit with dual sound demodulators; FM
TDA3845	Quasi-split-sound circuit and AM demodulator; supports FM/AM sound
TDA3856	Quasi-split-sound processor for all standards; supports FM/AM sound
TDA3857	Quasi-split-sound processor with two FM demodulators; supports all FM TV sound standards
TDA3858	Quasi-split-sound processor for all standards; supports AM/FM sound
TDA3866	Quasi-split-sound processor for all standards
TDA3867	As TDA3857, but AM output level 2.5 dB
TDA3868	Quasi-split-sound processor for all standards

AM-sound demodulators

TDA3843	Sound-IF circuit for TV AM-sound standard L and L’
TDA9830	Sound-IF circuit for TV AM-sound standard L and L’; audio source switch

FM-sound demodulators

TBA120U	Sound IF amplifier/demodulator for TV; FM demodulator; AF amplifier
TDA2555	Dual TV sound demodulator circuit; FM demodulator; 8-stage limiting amplifier
TDA2557	Dual TV sound demodulator circuit; FM demodulator; 5-stage limiting amplifier
TDA3827	TV-sound demodulator circuit with SCART switches and AF control
TDA9820	Multistandard/dual channel TV FM intercarrier sound demodulator; FM-PLL
TDA9821	Dual channel TV FM-PLL intercarrier sound demodulator

NICAM demodulators

TDA8732	NICAM-728 demodulator (NIDEM); supports PAL B, G and I

SOUND

Sound decoding

Two carrier analogue

TDA8415	TV and VTR stereo/dual sound processor with integrated filters and I^2C-bus control; function and software compatible with TDA8405
TDA8416	TV and VTR stereo/dual sound processor with integrated filters and I^2C-bus control; with 2 slave addresses
TDA8417	TV and VTR stereo/dual sound processor with integrated filters and I^2C-bus control
TDA9840	TV and VTR stereo/dual sound processor with digital identification and I^2C-bus control
TDA9845	TV and VTR stereo/dual sound processor with integrated filters
TDA9850	I^2C-bus controlled BTSC stereo/SAP decoder
TDA9847	TV and VTR stereo/dual sound processor with digital identification

USA stereo decoding

TDA3803A	Stereo/dual TV sound decoder circuit
TDA3833	BTSC-stereo/SAP/DBX decoder and DBX expander
TDA9855	I^2C-bus controlled BTSC stereo/SAP decoder and audio processor
TEA5582	PLL stereo decoder (BTSC sound system)

NICAM decoding

SAA7282	NICAM decoder including audio DACs
SAA7283	NICAM decoder with demodulator and DACs

Sound control

TDA3810	Spatial, stereo and pseudo-stereo sound circuit
TDA8421	Hi-fi stereo audio processor; I^2C-bus
TDA8424	Hi-fi stereo audio processor; I^2C-bus
TDA8425	Hi-fi stereo audio processor; I^2C-bus
TDA8426	Hi-fi stereo audio processor; I^2C-bus
TDA9860	Universal hi-fi audio processor for TV; I^2C-bus

Sound AD and DA converters
See **Radio/Audio** section

Sound output
See **Radio/Audio** section

VISION

Colour decoding, video control

SAA4960	PAL combfilter
SAA4961	Multistandard combfilter
SAA4970	Economical video processing IC (ECOBENDIC)
SAA4981	Monolithic integrated 16:9 compressor
TDA3504	Video control combination circuit; supports PAL/SECAM -(R-Y) and -(B-Y) signals
TDA3505	Video control combination circuit with automatic cut-off control; supports PAL/SECAM -(R-Y) and -(B-Y) signals
TDA3506	Video control combination circuit with automatic cut-off control; supports PAL/SECAM +(B-Y) and +(R-Y) signals
TDA3508	Video control combination circuit with automatic cut-off control
TDA3561A	PAL decoder
TDA3565	PAL decoder
TDA3566A	PAL/NTSC decoder
TDA3567	NTSC decoder
TDA3592A	SECAM-PAL transcoder
TDA4510	PAL decoder
TDA4555	Multistandard decoder; supports -(R-Y) and -(B-Y) signals
TDA4556	Multistandard decoder; supports +(R-Y) and +(B-Y) signals
TDA4557	Multistandard TV decoder
TDA4565	Colour transient improvement circuit; switchable delay time from 730 to 1000 ns in steps of 90 ns
TDA4566	Colour transient improvement circuit; switchable delay time from 550 to 820 ns in steps of 90 ns
TDA4568	Luminance signal delay circuit; switchable delay time from 550 ns to 820 ns in steps of 90 ns
TDA4570	NTSC decoder
TDA4580	Video control combination circuit with automatic cut-off control
TDA4632	SECAM colour decoder with negative colour difference output signals
TDA4650	Multistandard colour decoder with negative colour difference output signals difference outputs
TDA4651	Multistandard colour decoder with negative colour difference output signals
TDA4655	Multistandard colour decoder
TDA4657	PAL/SECAM colour decoder
TDA4661	Baseband delay line
TDA4662	Baseband delay line
TDA4663	1H delay line (only)

TDA4665	Baseband delay line
TDA4670	Picture signal improvement (PSI) circuit; I^{2}C-bus
TDA4671	Picture signal improvement (PSI) circuit; I^{2}C-bus
TDA4672	Picture signal improvement (PSI) circuit with enhanced peaking function
TDA4680	Video processor with automatic cut-off and white level control; I^{2}C-bus
TDA4681	Video processor with automatic cut-off control; I^{2}C-bus; NTSC, Japan
TDA4685	Video processor with automatic cut-off contrl; I^{2}C-bus
TDA4686	Video processor with automatic cut-off control; I^{2}C-bus
TDA4687	Video processor with automatic cut-off control; I^{2}C-bus
TDA4688	Video processor with automatic cut-off control
TDA4780	Video control with gamma correction
TDA8440	Switch for CTV receivers; video/audio; I^{2}C-bus
TDA8443A	I^{2}C-bus controlled YUV/RGB switch; two-channels; RGB/YUV matrix; I^{2}C-bus or DC control; 3-state outputs; seven slave addresses
TDA8443B	I^{2}C-bus controlled YUV/RGB switch; two-channels; RGB/YUV matrix; I^{2}C-bus or DC control; 3-state outputs; seven slave addresses
TDA8446	RGB/YC switch
TDA8480	RGB gamma-correction processor; I^{2}C-bus
TDA8490	SECAM decoder
TDA8540	4x4 video switch matrix; I^{2}C-bus
TDA8601	RGB/YUV and fast blanking switch
TDA9141	PAL/NTSC/SECAM decoder/sync processor; alignment-free; I^{2}C-bus
TDA9143	PAL/NTSC/SECAM decoder/sync processor; alignment-free; I^{2}C-bus
TDA9144	PAL/NTSC/SECAM decoder/sync processor; alignment-free; I^{2}C-bus
TDA9160A	Multistandard decoder, synchronous processor, I^{2}C-bus
TDA9161A	Bus-controlled decoder/sync processor; I^{2}C-bus
TDA9162	Multistandard decoder, synchronous processor; I^{2}C-bus; prepared for 16:9
TDA9170	YUV picture improvement processor based on histogram modification; I^{2}C-bus
TDA9171	YUV picture improvement processor based on histogram modification and blue-stretch
TDA9176	Luminance transient improvement (LTI) IC

Video AD and DA converters

TDA8702	8-bit video D/A converter; 30 MHz conversion rate; 150 MHz bandwidth; TLL-compatible
TDA8703	8-bit high-speed A/D converter; 40 MHz sampling rate; TLL-compatible
TDA8705	6-bit high-speed dual A/D converter; 40 MHz sampling rate
TDA8705A	6-bit high-speed dual A/D converter; 80 MHz sampling rate
TDA8706	6-bit A/D converter with multiplexer and clamp; three analog inputs; TLL-compatible
TDA8707	Triple RGB 6-bit video A/D interface
TDA8708A	Video analog input interface; 8-bit video ADC; 32 MHz sampling rate; 1-out-of-3 video input selector; TLL-compatible
TDA8708B	Video analog input interface
TDA8709A	Video analog input interface; 8-bit video ADC; 32 MHz sampling rate ; 1-out-of-3 video input selector; clamp function with '16' or '128' selection
TDA8712	8-bit high-performance, high-speed video DAC; 50 MHz (max.); TLL-compatible
TDA8714	8-bit high-speed A/D converter; sampling frequencies: 40, 60 and 75 MHz
TDA8716	8-bit high-speed ADC; 100 MHz clock; ECL compatible
TDA8718	8-bit high-speed A/D converter; 600 MHz sampling rate
TDA8753A	YUV 8-bit A/D interface with horizontal compression for 4/3 or 19/9
TDA8755	YUV 8-bit video low-power A/D interface
TDA8758	YC 8-bit low-power A/D video interface
TDA8760	10-bit high-speed A/D converter; sampling frequency: 20, 40 and 50 MHz
TDA8761	9-bit A/D converter for digital video
TDA8762	10-bit high-speed A/D converter; sampling frequency: 20 and 40 MHz
TDA8762A	10-bit high-speed A/D converter; sampling frequency: 60 and 80 MHz
TDA8766	10-bit high-speed 3 V A/D converter
TDA8771	Ttriple 8-bit video D/A converter; 35 MHz sampling rate
TDA8772	Triple 8-bit video D/A converter; 35/85 MHz sampling rate
TDA8772A	Triple 8-bit video D/A converter; sampling frequencies: 35 and 85 MHz
TDA8776	10-bit, 500 Msps D/A converter
TDA8776A	10-bit, 1000 Msps D/A converter

TDA8785	8-bit A/D converter with controllable gain
TDA8790	8-bit, 40 Msps universal A/D converter; 2.7 to 5.5 V supply
TDA8794	Dual 8-bit, 40 Msps universal A/D converter; 2.7 to 5.5 V supply
TDF8704	8-bit high-speed A/D converter; sampling frequency options: 20, 40 and 50 MHz; -40 to +85°C
TDF8712	8-bit D/A converter; 50 MHz sampling rate; -40 to +85°C

Memory-based features

Picture-in-picture (PIP)

SAB9075	Picture-in-picture (PIP) controller for NTSC
TDA8310	Multistandard signal processing for PIP
TDA8310A	Multistandard signal processing for PIP
TDA8315	Integrated NTSC decoder and sync processor

Scan conversion

SAA4940	Noise reduction IC
SAA4945	LIMERIC line memory based noise reduction
SAA4951	Memory controller
SAA4952	Memory controller
SAA4990	Progressive scan-zoom and noise reduction IC (PROZONIC)
SAA4991	MEZONIC movement estimation for 100 Hz
SAA4995	PANorama-IC
SAA7158	Back-end IC for memory-based features and video DAC

Video output

TDA6101BQ	Video output amplifier; 8 MHz small signal bandwidth
TDA6101Q	Video output amplifier; 8 MHz small signal bandwidth
TDA6103Q	Triple video output amplifier
TDA6106Q	Video output amplifier
TDA6111Q	Video output amplifier; 16 MHz small signal bandwidth
TDA6120Q	30 MHz video output amplifier

ON-SCREEN DISPLAY

OM4871	Evaluation board for the PCA8514/15/16 OSD circuits
OM4878	Evaluation board for the PCA8517 OSD circuit
PCA8514	Stand-alone on-screen character generator; 256 bytes display RAM; 128 character fonts; 4 to 14 MHz OSD
PCA8515	Stand-alone OSD circuit; 256 fonts in ROM; 256 bytes display RAM; High-speed serial I/O; or I^{2}C-bus
PCA8516	Stand-alone OSD circuit; 256 fonts in ROM; 256 bytes display RAM; high-speed serial I/O; or I^{2}C-bus; half-tone effect
PCA8517	Stand-alone on-screen character generator for multi-frequency applications (auto-sync monitors, 10 to 100 kHz H-sync frequency)

SYNC AND DEFLECTION, COMBI/ONE-CHIP, POWER SUPPLY

Sync and deflection

SAA1101	Universal sync generator (USG); programmable to seven standards
TDA2579B	Horizontal/vertical synchronization circuit; 50/60 Hz detector
TDA2579C	Horizontal/vertical synchronization circuit; 60 Hz detector
TDA2595	Horizontal combination; transmitter identification and protection circuits
TDA3653B	Vertical deflection and guard circuit (90°); SIL9 package
TDA3653C	Vertical deflection and guard circuit (90°); SIL9P package
TDA3654	Vertical deflection and guard circuit (110°); SIL9P package
TDA3654Q	Vertical deflection and guard circuit (110°); DBS9P package
TDA4691	Sync processor with clock

TDA8350Q	DC-coupled vertical deflection and east-west output circuit
TDA8351	DC-coupled vertical deflection output circuit
TDA8351A	DC-coupled vertical deflection output circuit
TDA8356	DC-coupled vertical deflection output circuit
TDA8433	Deflection processor for computer-controlled TV receivers; I^2C-bus
TDA9150B	Programable deflection controller
TDA9151B	Programmable deflection controller

Combi/one-chip

TDA4501	Small-signal combination with sound circuit for colour TV
TDA4504B	Small-signal combination for multistandard colour TV (positive and negative modulation)
TDA4505E	Small-signal combination IC for colour TV
TDA8302	Small-signal combination IC for colour TV; 60 Hz; video switch
TDA8303	Small-signal combination IC for black/white TV
TDA8303A	Small-signal combination; sound IF; DC volume control; audio pre-amplifier; for PNP tuners
TDA8304	Small-signal combination IC for colour TV; 50/60 Hz identification; video switch
TDA8305A	Small-signal combination IC for colour TV
TDA8360	One-chip TV; PAL
TDA8360E	One-chip TV; PAL; softstart
TDA8361	One-chip TV; PAL/NTSC
TDA8361A	One-chip TV; PAL/NTSC; softstart; auto cut-off
TDA8361E	One-chip TV; PAL/NTSC; softstart
TDA8362	One-chip TV; multistandard
TDA8362A	One-chip TV; multistandard; softstart; auto cut-off
TDA8362E	One-chip TV; multistandard; softstart
TDA8366	One-chip TV video processor multistandard; I^2C-bus
TDA8368A	One-chip TV; NTSC
TDA8369	One-chip TV; NTSC; Auto volume limiter
TDA8373	Bus-controlled one-chip TV; NTSC; I^2C-bus
TDA8374	Bus-controlled one-chip TV; multistandard; I^2C-bus
TDA8374A	Bus-controlled one-chip TV; PAL/NTSC; I^2C-bus
TDA8375	Bus-controlled one-chip TV; multistaandard; 110°; zoom; I^2C-bus
TDA8375A	Bus-controlled one-chip TV; multistaandard; 110°; I^2C-bus
TDA8376	Bus-controlled one-chip video processor; multistandard; I^2C-bus
TDA8376A	Bus-controlled one-chip video processor; multistandard; zoom; I^2C-bus
TDA8377	Bus-controlled one-chip TV; NTSC; 110°; zoom; I^2C-bus
TDA8377A	Bus-controlled one-chip TV; NTSC; 110°; I^2C-bus
TDA8395	SECAM add-on to the one-chip TV ICs

Power supply

TDA8385	Control IC for self-oscillating power suply (SOPS)
TDA8380A	Control circuit for switched mode power supplies

TELETEXT

SAA5191	Teletext video processor; adaptive data slicer and sync separator
SAA5231	Teletext video processor; adaptive data slicer and sync separator
SAA5244A	Integrated VIP and teletext
SAA5246AE	Integrated VIP and teletext; I^2C-bus; 625-line system; West European language version
SAA5246AH	Integrated VIP and teletext; I^2C-bus; 625-line system; East European language version
SAA5246AK	Integrated VIP and teletext; I^2C-bus; 625-line system; Arabic and French language version
SAA5246AL	Integrated VIP and teletext; I^2C-bus; 625-line system; Arabic and Hebrew language version
SAA5246AS	Integrated VIP and teletext; I^2C-bus; 625-line system; Thai characters version
SAA5246AT	Integrated VIP and teletext; I^2C-bus; 625-line system; West European and Turkish language version
SAA5249E	Integrated VIP and teletext with background memory controller; I^2C-bus; West European language version
SAA5249H	Integrated VIP and teletext with background memory controller; I^2C-bus; East European language version

Video

SAA5249T	Integrated VIP and teletext with background memory controller; I^2C-bus; Euro-Turkish version
SAA5250	Interface for data acquisition and control (for multistandard teletext systems)
SAA5252	Line 21 decoder
SAA5254E	Integrated VIP and teletext; West European language version
SAA5254H	Integrated VIP and teletext; East European language version
SAA5254T	Integrated VIP and teletext; Euro-Turkish language version
SAA5270	High-end teletext and OSD 625-line decoder; 16:9/4:3; 100/50 Hz DRCS
SAA5281E	Integrated video input processor and teletext decoder; West European language version
SAA5281H	Integrated video input processor and teletext decoder; East European language version
SAA5281K	Integrated video input processor and teletext decoder; Arabic and French language version
SAA5281L	Integrated video input processor and teletext decoder; Arabic and Hebrew language version
SAA5281R	Integrated video input processor and teletext decoder; Baltic and Cyrillic language version
SAA5281T	Integrated video input processor and teletext decoder; Euro-Turkish language version
SAA5290	One-chip tuning and text; 1 page teletext; mask programmable
SAA5296	One-chip tuning and text; 10 page teletext; 32k mask-programmable ROM
SAA5301	Japanese MOSI teletext decoder
SAA5495	As SAA5496 with external ROM
SAA5496	As SAA5296 with enhanced OSD
SAA5700	CEST (Chinese teletext) decoder

SATELLITE TV

TDA8010	Satellite mixer/oscillator
TDA8010A	Satellite mixer/oscillator
TDA8011	IF satellite amplifier
TDA8012	Low power FM-demodulator for satellite tuner
TDA8013	Low-power FM demodulator for satellite tuner
TDA8730	PLL FM demodulator for DBS signals
TDA8735	PLL frequency synthesizer for TDA8741 applications; I^2C-bus
TDA8740	Satellite sound circuit with noise reduction
TDA8741	Satellite sound circuit with noise reduction
TDA8742	Satellite sound circuit with noise reduction
TDA8745	Satellite sound circuit with I^2C-bus control
TSA5055	2.5 GHz bi-directional I^2C-bus controlled synthesizer; for salellite tuning

DIGITAL VIDEO BROADCASTING (DVB)

SAA7200	MPEG2 video decoder
SAA7201	MPEG2 video/audio/OSD decoder
SAA7205	MPEG2 demultiplexer; DVB compliant
SAA7206	DVB descrambler
SAA7207	R/S-FEC for cable; DVB compliant
TDA8040	QPSK demodulator
TDA8041	QPSK control
TDA8045	QAM-64 demodulator
TDA8046	256/64 QAM demodulator; DVB compliant
TDA8725	Antenna signal processor

MISCELLANEOUS ICs

Encoding

TDA8501	PAL/NTSC encoder
TDA8505	SECAM encoder

Modulators

TDA8722	I^{2}C-bus programmable modulator for negative video modulation and FM sound
TDA8822	Universal PAL/NTSC programmable modulator for negative video modulation and FM sound

Other circuits

TDA8442	I^{2}C-bus interface for colour decoders; four 6-bit DACs; one high-current and two switching output ports
TDA8444	Octuple 6-bit DAC with I^{2}C-bus
TDA8444A	Octuple 6-bit DAC with I^{2}C-bus

DEDICATED MONITOR ICs

TDA4800	Vertical deflection circuit for monitors applications
TDA4820	Sync separation circuit for video applications
TDA4850	Horizontal and vertical deflection controller for VGA/XGA and multi-frequency monitors
TDA4851	Horizontal and vertical deflection controller for VGA/XGA and autosync monitors; low jitter
TDA4852	Horizontal and vertical deflection controller for autosync monitors
TDA4855	H/V deflection controller (autosync)
TDA4858	Economy autosync deflection controller
TDA4860	vertical deflection power amplifier for monitors; 2 Ap-p
TDA4861	Vertical deflection power amplifier for monitors; 2.8 Ap-p
TDA4866	Full bridge current driven vertical deflection booster
TDA4881	Advanced monitor video controller; DC controllable
TDA4882	Advanced monitor video controller for OSD
TDA4884	Three gain control video pre-amplifier for OSD

DEDICATED VCR ICs

SAA1310	Control interface for VHS recorders; PAL and NTSC compatible
SAA4700	VPS dataline processor; I^{2}C-bus; 40-bit dataline register; line 16 decoding
SAA5233	VPS/PDC decoder
TDA3755	PAL/NTSC/SECAM synchronization processor for video recorders; VHS systems
TDA4722	SECAM-L chrominance processor for VHS recorders
TDA4724	SECAM-L chrominance processor for VHS recoders
TDA9610	Audio FM processor for VHS hi-fi audio; I^{2}C-bus
TDA9612	VHS stereo audio processor; alignment free
TDA9614	VHS stereo audio processor; alignment free
TDA9715A	Y/C one-chip processor (VHS standard)
TDA9725	VHS video (Y/C) processor (alignment free)

DESKTOP VIDEO

Colour decoding, video control

SAA7110A	One-chip frontend; 2x ADC and CGC
SAA7111	Video input processor (VIP); digital multistandard video decoder; CCIR frequency; 2x ADC and CGC
SAA7111A	Video input processor (VIP); digital multistandard video decoder; (SAA7111 + SECAM + video text slicer); 3.3 V supply
SAA7131	Full MPEG1 video and audio decoder (FMPEG)
SAA7151B	Digital multistandard decoder; Scart interface; I^{2}C-bus
SAA7191B	Digital multistandard decoder for square pixel output; I^{2}C-bus
SAA7196	Digital multistandard decoder; scaling capability and CGC

Colour encoding, video control

SAA7182	Digital video encoder (EURO-DENC); PAL/NTSC/SECAM; RGB output; teletext insertion; CCIR; non Macrovision version of SAA7183
SAA7183	Digital video encoder with Macrovision Rev. 6; SECAM; RGB output; teletext insertion; CCIR

SAA7184	Digital video encoder (DENC2-M6); PAL/NTSC with Macrovision Rev. 6; CCIR
SAA7185	Digital video encoder; CCIR frequency; PAL/NTSC
SAA7187	Digital video encoder; square pixel signal output
SAA7188A	Digital video encoder (DENC2-M) with Macrovision; PAL/NTSC; CCIR frequency
SAA7199B	Digital video encoder; GENLOCK-capable; CCIR or square pixel frequency

Video D/A converters

SAA7165	Video enhancement and D/A processor (VEDA2); I^2C-bus
SAA7167	YUV-to-RGB digital-to-analog converter (DAC)

Clock generators

SAA7157	Clock-signal generator circuit for desktop video; CCIR601 compatible clock rates
SAA7197	Clock signal generation circuit (SCGC) for desktop video systems; PLL or VCO operation modes

Feature processors

SAA7140B	High-performance scaler; up/down scaling; 3.3 V supply
SAA7186	Digital video scaler; scales video pictures to random size window; I^2C-bus
SAA7192A	Digital colour-space converter; 3x8 bit; YUV-RGB; I^2C-bus
SAA7195A	Video memory controller (VMC); ISA interface

PCI video bridges

SAA7145	Multimedia PCI bridge; video to PCI bridge and scaler
SAA7146	Multimedia bridge scaler and PCI circuit; video to PCI bridge with high-performance scaler; bidirectional

Multimedia evaluation boards

DPC7131	PC-based MPEG1 video playback evaluation kit
DPC7145/46	PC-based (PCI) video capture board/MPEG playback
DPC7167	PC-based (ISA) video capture board
DTV7183	PAL/NTSC/SECAM decoder & encoder board

CONTROL CIRCUITS

Microcontrollers

See **Microcontrollers** section, including dedicated OSD and VST devices

Memories

See **Memories** section

See **Support circuits for Radio/Audio and Video** section for:
- Clock/calendar ICs
- I^2C-bus controllers and I/O expanders
- Remote controllers

Display drivers

See **Display drivers** section

Support circuits for Radio/Audio and Video

CLOCK/CALENDAR CIRCUITS

PCF8573	Clock calendar with serial I/O; I^{2}C-bus
PCF8583	Clock calendar with 256x8-bit static RAM; I^{2}C-bus
PCF8593	Low-power clock calendar; I^{2}C-bus

I^{2}C-BUS CONTROLLERS AND I/O EXPANDERS

OM5027	I^{2}C-bus/LCD demo board
P82B715	I^{2}C-bus extender
PCF8574	Remote 8-bit I/O expander for I^{2}C-bus; 8 slave addresses (4xH)
PCF8574A	Remote 8-bit I/O expander for I^{2}C-bus; 8 slave addresss (7xH)
PCF8584	Parallel-bus to I^{2}C-bus converter
SAA1300	5 high-current outputs; I^{2}C-bus; 85 mA per output
S87C00KSD	8xC51 and I^{2}C-bus evaluation board

REMOTE CONTROLLERS

PCA84C122A	8-bit microcontroller for remote control transmitter; 1k ROM, 32 bytes RAM, 16 I/O lines
PCA84C122B	8-bit microcontroller for remote control transmitter; 1k ROM, 32 bytes RAM, 12 I/O lines
PCA84C222A	8-bit microcontroller for remote control transmitter; 2k ROM, 32 bytes RAM, 16 I/O lines
PCA84C222B	8-bit microcontroller for remote control transmitter; 2k ROM, 32 bytes RAM, 12 I/O lines
PCA84C422A	8-bit microcontroller for remote control transmitter; 4k ROM, 32 bytes RAM, 16 I/O lines
PCA84C422B	8-bit microcontroller for remote control transmitter; 4k ROM, 32 bytes RAM, 12 I/O lines
PCA84C622A	8-bit microcontroller for remote control transmitter; 6k ROM, 64 bytes RAM, 16 I/O lines
PCA84C622B	8-bit microcontroller for remote control transmitter; 6k ROM, 64 bytes RAM, 12 I/O lines
PCA84C622C	8-bit microcontroller for remote control transmitter; 6k ROM, 64 bytes RAM, 20 I/O lines
PCA84C822A	8-bit microcontroller for remote control transmitter; 8k ROM, 64 bytes RAM, 16 I/O lines
PCA84C822B	8-bit microcontroller for remote control transmitter; 8k ROM, 64 bytes RAM, 12 I/O lines
PCA84C822C	8-bit microcontroller for remote control transmitter; 8k ROM, 64 bytes RAM, 20 I/O lines
PCA84C922A	8-bit microcontroller for remote control transmitter; 8k + 8k ROM, 128 bytes RAM, 16 I/O lines
PCA84C922C	8-bit microcontroller for remote control transmitter; 8k + 8k ROM, 128 bytes RAM, 20 I/O lines
PCA84C923A	8-bit microcontroller for remote control transmitter; 8k + 16k ROM, 256 bytes RAM, 16 I/O lines
PCA84C923C	8-bit microcontroller for remote control transmitter; 8k + 16k ROM, 256 bytes RAM, 20 I/O lines
PCA84C923D	8-bit microcontroller for remote control transmitter; 8k + 16k ROM, 256 bytes RAM, 36 I/O lines
PCA8521	RC-5 remote control circuit
SAA3049A	Infrared remote control decoder
UAA3201	UHF/VHF remote control receiver

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package		SOT no.	SPQ/PQ tube	SPQ/PQ reel 7"	SPQ/PQ reel 13"	SPQ/PQ reel 360 mm	SPQ/PQ hard tray	PQ1/PQ5 JEDEC tray
DIP8		97	50/2000	–	–	–	–	–
DIP14		27	24/960	–	–	–	–	–
DIP16		38-1/69	22/880	–	–	–	–	–
DIP16	**	38-4	25/1000	–	–	–	–	–
DIP18		102-2	20/800	–	–	–	–	–
DIP18	**	102-1	22/880	–	–	–	–	–
DIP20		146	18/720	–	–	–	–	–
SDIP20		325	25/1000	–	–	–	–	–
DIP22		116	17/544	–	–	–	–	–
DIP22SK		224	18/720	–	–	–	–	–
DIP24		101	15/360	–	–	–	–	–
DIP24SK		222	15/600	–	–	–	–	–
SDIP24		234	21/672	–	–	–	–	–
DIP28		117	13/312	–	–	–	–	–
DIP32		201	11/264	–	–	–	–	–
SDIP32		232	16/512	–	–	–	–	–
DIP40		129	9/216	–	–	–	–	–
SDIP42		270	12/288	–	–	–	–	–
DIP48		240	7/168	–	–	–	–	–
SDIP52		247	10/240	–	–	–	–	–
SDIP64		274	8/160	–	–	–	–	–
CDIP8		151	48/1920	–	–	–	–	–
CDIP14		73	25/1000	–	–	–	–	–
CDIP16		74	25/1000	–	–	–	–	–
CDIP18		133	21/840	–	–	–	–	–
CDIP20		152	20/800	–	–	–	–	–
CDIP24		94	15/360	–	–	–	–	–
CDIP28		135	13/312	–	–	–	–	–
CDIP40		145	9/216	–	–	–	–	–
SIL9MPF		110	22/748	–	–	–	–	–
SIL9P		131	20/420	–	–	–	–	–
SIL9MP		142	22/748	–	–	–	–	–
SIL13P		193	20/420	–	–	–	–	–
RBS9MPF		352	22/924	–	–	–	–	–
RBS9P		237	20/360	–	–	–	–	–
DBS9MPF		111	22/748	–	–	–	–	–
DBS9P		157	20/360	–	–	–	–	–
DBS13P		141	20/360	–	–	–	–	–
DBS17P		243	20/360	–	–	–	–	–
SMS9P	*	354	20/360	–	–	–	–	–
PMFP8	*	144	50/2000	5000/10000	–	–	–	–
SO8	*	96	100/2000	1000	2500	–	–	–
SO8L	*	176	64/2560	700	1000	–	–	–
SO14	*	108	57/1140	1000	2500	–	–	–
SO16	*	109	50/1000	1000	2500	–	–	–

INTEGRATED CIRCUITS

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package	SOT no.	SPQ/PQ tube	SPQ/PQ reel 7"	SPQ/PQ reel 13"	SPQ/PQ reel 360 mm	SPQ/PQ hard tray	PQ1/PQ5 JEDEC tray
SO16L *	162	47/1880	500	1000	–	–	–
SO20 *	163	38/1520	500	1000	–	–	–
SO20M *	336	38/532	–	2000	–	–	–
HSOP20 *	397	TBF/TBF	–	TBF	–	–	–
SO24 *	137	31/1240	500	1000	–	–	–
SO28 *	136	27/1080	500	1000	–	–	–
SO28XL *	213	27/756	350	1000	–	–	–
SO32 *	287	24/960	500	1000	–	–	–
SSOP14 *	337	78/1092	–	2000	–	–	–
SSOP16 *	369	78/1092	–	2500	–	–	–
SSOP16M *	338	78/1092	–	2000	–	–	–
TSSOP16 *	403	96/2400	–	2500	–	–	–
SSOP20 *	266	75/1350	1000	2500	–	–	–
SSOP20M *	339	66/924	–	1000	–	–	–
TSSOP20 *	360	76/1900	–	2500	–	–	–
SSOP24 *	340	59/826	–	1000	–	–	–
TSSOP24 *	355	63/1575	–	2500	–	–	–
SSOP28 *	341	47/658	–	1000	–	–	–
TSSOP48 *	362	39/TBF	–	1000	–	–	–
TSSOP56 *	364	TBF	–	TBF	–	–	–
VSO40 *	158	31/1240	300	1000	–	–	–
VSO56 *	190	22/616	–	–	1000	–	–
QFP44S10 *	307	–	–	1500	–	–	96/480
QFP44S14 *	205	–	–	–	1000	–	84/420
QFP48S10 *	196	–	–	–	–	720	–
QFP64 14x20 *	319	–	–	–	500	–	66/330
QFP80 14x20 *	318	–	–	–	500	–	66/330
QFP100 14x20 *	317	–	–	–	500	–	66/330
QFP120S28 *	349	–	–	–	–	–	24/120
QFP128S28 *	320	–	–	–	–	–	24/120
QFP160S28 *	322	–	–	–	–	–	24/120
SQFP208S28 *	316	–	–	–	–	–	24/120
LQFP32S7 *	358	–	–	2000	–	400	250/1250
LQFP48S7 *	313	–	–	2000	–	400	250/1250
LQFP64S10 *	314	–	–	1500	–	400	160/800
LQFP80S12 *	315	–	–	1000	–	–	119/595
PLCC20 *	380	46/3680	–	1000	–	–	–
PLCC28 *	261	37/2368	200	750	–	–	–
PLCC32 *	381	31/2232	–	750	–	–	–
PLCC44 *	187	26/1248	–	500	500	–	–
PLCC52 *	238	23/1012	–	500	–	–	–
PLCC68 *	188	18/648	–	250	250	–	–
PLCC84 *	189	15/420	–	250	250	–	–

Packing quantities

Package abbreviations *

Plastic packages

DBS	DIL Bent SIL
DIP	Dual In-line Package
PLCC*	Plastic Leaded Chip Carrier
PMPF*	Plastic Micro Flat Pack
QFP*	Quad Flat Pack
RBS	Rectangular Bent SIL
SIL	Single In-Line
SMS*	Surface Mount SIL
SO*	Small Outline
SOJ*	SO with J-bent leads
SSOP*	Shrink Small Outline Package
HSOP*	Heatsink Small Outline Package
TSSOP*	Thin Shrink Small Outline Package
LQFP*	Low-profile Quad Flat Pack
TAB*	Tape Automated Bonding
VSO*	Very Small Outline

Ceramic glass sealed packages

CDIP	Ceramic Dual In-line Package
QCERPA*	Quad CERamic (flat) PAck
QUADKP*	QUAD K-Pack

Ceramic packages with a metal lid

CDIL	Ceramic Dual In-Line package
CSO*	Ceramic SO large package
CLCC*	Ceramic Leaded Chip Carrier
CPGA	Ceramic Pin-Grid Array
LCCC*	Leadless Ceramic Chip Carrier

Metal can packages

CIRCLE	leads on a pin CIRCLE

Package prefix/suffix

FD	Face Down
L	Large
MP	Medium Power
MPF	Medium Power + cooling Fin
P	Power
S	Shrink
SK	SKinny
SL	Short Lead
SLL	SLim Line
S10	Square 10 (10 × 10 mm)
S14	Square 14 (14 × 14 mm)
14×20	Rectangular (14 × 20 mm)
XL	eXtra Large
XXL	eXtra eXtra Large

Smallest Packing Quantity (SPQ)

For highest quality assurance, it is recommended to order multiples of the SPQs preferably up to the packing quantity (PQ) i.e. full boxes listed in the table above. For circuit evaluation, single samples can be ordered.

Notes:

*	SMD package for surface mounting
**	DIP16/DIP18 with short body
reels:	Philips Semiconductors, Sunnyvale supports 13" reels only; Philips Semiconductors supports 7" and 13" reels

INTEGRATED CIRCUITS

Competitive cross-reference guide

BIPOLAR PROMs

Size (Bits)	Organization	PHILIPS		AMD	
		P/N	T_{AA} (ns)	P/N	T_{AA} (ns)
256	32x8(OC)	N82S23	50		
		N82S23A	25		
256	32x8(TS)	N82S123	50	AM27S19	40
		N82S123A	25	AM27S19A	25
				AM27S19SA	15
1K	256x4 (10K ECL)	10149**	20		
		10149A**	10		
1K	256x4 (100K ECL)	100149**	20		
		100149A**	10		
1K	256x4(OC)	N82S126	50		
		N82S126A	30		
1K	256x4(TS)	N82S129	50	AM27S21	45
		N82S129A	27	AM27S21A	30
2K	256x8(TS)	N82LS135**	100		
		N82S135**	45		
2K	512x4(OC)	N82S130	50		
		N82S130A	33		
2K	512x4(TS)	N82S131	50	AM27S13	50
		N82S131A	30	AM27S13A	30
4K	512x8(TS)	N82S147	60	AM27S29	55
		N82S147A	45	AM27S29A	40
		N82S147B	25	AM27S29SA	30
4K	512x8(TS)	N82S141	60	AM27S31	55
		N82S141A	45	AM27S31A	40
4K	1Kx4(TS)	N82S137	60	AM27S33	55
		N82S137A	45	AM27S33A	35
		N82S137B	25		
8K	1K8(TS)	N82S181	70		
		N82181A	55	AM27S1(2*)81	60
		N82S181C	35	AM27S1(2*)81A	35
8K	1Kx8(TS)	N82S183**	60		
8K	2Kx4(TS)	N82S185A	70		
		N82S185B	50	AM27S185	50
		N82S185C	35	AM27S185A	35
16K	2Kx8(TS)	N82S191	80	AM27S1(2*)91	50
		N82S191A	55	AM27S1(2*)91A	35
		N82S191C	35	AM27S1(2*)91SA	25
16K	4Kx4(TS)	N82HS195**	45	AM27S41	50
		N82HS195A**	35	AM27S41A	35
		N82HS195B**	25		
32K	4Kx8(TS)	N82HS321	45	AM27S43	55
		N82HS321A	35	AM27S43A	40
		N82HS321B	30		
		N82HS321C	25		
64K	8Kx8(TS)	N82HS641	55	AM27S49	55
		N82HS641A	45	AM27S49A-45	45
		N82HS641B	35	AM27S49A	40

* 2 in part number designates 300 mil package.

** All Philips PROMs listed are available to MIL spec 883C Level 1.2.1 except those noted with **.

Competitive cross-reference guide

BIPOLAR PROMs *(continued)*

Packaging Information	Philips	AMD
Plastic Dual In-Line	N	P
Ceramic Dual In-Line	F	D
Small Outline (SO)	D	not available
Plastic Leaded Chip Carrier (PLCC)	A	J

BIPOLAR PAL-DEVICE PLDs
(Where XX = L8 or R8 or R6 or R4)

Philips	AMD	Texas Instruments
PLUS16XXDA	PAL16XXDCNL	TIBPAL16XX-10CFN
PLUS16XXDN	PAL16XXDCN	TIBPAL16XX-10CN
PLUS16XX-7A	PAL16XX-7JC	TIBPAL16XX-7CFN
PLUS16XX-7N	PAL16XX-7PC	TIBPAL16XX-7CN
PLUS20XXDA	PAL20XX-10JC	TIBPAL20XX-10CFN
PLUS20XXDN	PAL20XX-10PC	TIBPAL20XX-10CN
PLUS20XX-7A	PAL20XX-7JC	TIBPAL20XX-7CFN
PLUS20XX-7N	PAL20XX-7PC	TIBPAL20XX-7CN

22V10 CROSS REFERENCE

Philips	AMD	Cypress	Lattice	Texas Instruments
ABT22V10-7A	PAL22V10-7JC	PAL22V10C-7JC	GAL22V10-7LJ	TIBPAL22V10-7CFN
ABT22V10-7D				
ABT22V10-7N	PAL22V10-7PC	PAL22V10-7PC	GAL22V10-7LP	TIBPAL22V10-7CNT
PL22V10-10A	PALCE22V10H-10JC	PAL22V10C-10JC	GAL22V10B-10LJ	TIBPAL22V10-10CFN
PL22V10-10D	PALCE22V10H-10SC		GAL22V10B-10LS	
PL22V10-10N	PALCE22V10H-10PC	PAL22V10C-10PC	GAL22V10B-10LP	TIBPAL22V10-10CNT
PL22V10-12A		PAL22V10C-12JC		
PL22V10-12D				
PL22V10-12N		PAL22V10C-12PC		
PL22V10-15A	PALCE22V10H-15JC	PAL22V10B-15JC	GAL22V10(B)-15LJ	TIBPAL22V10-15CFN
PL22V10-15D	PALCE22V10H-15SC		GAL22V10(B)-15LS	
PL22V10-15N	PALCE22V10H-15PC	PAL22V10B-15PC	GAL22V10(B)-15LP	TIBPAL22V10-15CNT

EEPROMs

Numeric	Description	General Instruments/ Micro Chip Technology	SGS/Thompson	Xicor	Philips
8581	128 x 8-Bit EEPROM	PCD8572 PCD8572I	-	-	PCF8581
8582	256 x 8-Bit EEPROM	PCD8582 PCD8582I	ST24C02	X24C021	PCF8582

EEPROMs Packaging	General Instruments/ Micro Chip Technology	SGS/Thompson	Xicor	Philips
Small Outline (SO)	SO	S	S	TD (SO14)
DIP Molded (DIL)	P	P	P	PN (DIL8)

Competitive cross-reference guide

STANDARD TTL LOGIC

Prefix	Texas Instruments	National	Mitsubishi	Motorola	Harris	Toshiba	Philips
74ABT	SN	-	-	-	-	-	No Prefix
74ALS	SN	DM	M	-	-	-	N
74F	SN	DM	M	MC	-	-	N
74HC/HCT	SN	MM	M	MC	CD	TC	No Prefix
4000	-	CD/LH	-	MC	CD	TC	HEF

Standard TTL Logic Packaging	Texas Instruments	National	Mitsubishi	Motorola	Harris	Toshiba	Philips
DIP Molded (DIL)	N	N	P	P	3	P	N
Small Outline (SO)	DW	M	-	D	M	J*	D
Hermetic CERDIP (DIL)	J	D	K	U	I	D	F
Plastic Leaded Chip Carrier (PLCC)	FN	-	-	FN	4P	T	A
Shrink Small Outline (SSOP)	DL	-	-	-	-	-	DB

* Japanese Standard Small Outline SOJ

FAST (Bus Interface Registers, Buffers, Latches and Transceivers)

AMD	National	Motorola	Mitsubishi	Philips
AM29821	74F821	-	M74F821	N74F821
AM29823	74F823	-	M74F823	N74F823
-	-	-	-	N74F824
AM29825	74F825	-	M74F825	N74F825
AM29827	74F827	MC74F827	-	N74F827
AM29828	74F828	MC74F828	-	N74F828
AM29841	74F841	-	M74F841	N74F841
AM29843	74F843	-	M74F843	N74F843
-	74F845	-	M74F845	N74F845
-	-	-	-	N74F861
-	-	-	-	N74F863

Competitive cross-reference guide

LINEAR

Numeric	Description	Motorola	National	SGS/ Thompson	Texas Instruments	Others	Philips
DAC-08	8-Bit D/A Converter	DAC-08	DAC-0800 DAC-0801 DAC-0802	-	-	- AMD DAC-08	DAC-08 NE5009 NE5007 NE5008
0803/ 0804	8-Bit A/D Converter	-	ADC0803 ADC0804	-	ADC0803 ADC0804	Intersil ADC0803 ADC0804	ADC0803 ADC0804
0820	8-Bit CMOS A/D Converter	-	ADC0820	-	-	Analog Devices AD7820	ADC0820
124	Quad Op Amp	LM124	LM124	-	LM124	RCA CA124	LM124
13600	High Performance Dual Transcon Amp	-	LM13600/A	-	-	Exar XR13600	NE5517
1408/ 1508	8-Bit D/A Converter	MC1408/ 1508	DAC0806 DAC0807 DAC0808	-	-	Harris HI5618	MC1408-6 MC1408-8 MC1508-8
145406	CMOS RS 232-D Triple Receiver	MC145406	-	-	-	-	MC145406
1458/ 1558	Dual Op Amp	MC1458 MC1558	LM1458 LM1558	MC1458	MC1458	Samsung MC1458	MC1458 MC1558
1496/ 1596	Balanced Modulator/ Demodulator	MC1496 MC1596	LM1496 LM1596	-	-	Silicon General SG1496	MC1496 MC1596
158	Dual Op Amp	LM158	LM158	LM158	LM158	Intersil CA158	SE532
198	Sample-and-Hold Amp	-	LF198	-	-	AMD LF1998	LF198 SE5537
211	Voltage Comparator	LM211	LM211	-	LM211	Silicon General SG211	LM211
219	Dual Comparator	-	LM219	TDE0119	-	-	LM219
224	Quad Op Amp	LM224	LM224	LM224	LM224	-	LM224 SA534
239	Quad Voltage Comparator	LM239	LM239	-	LM239	RCA CA239	LM239/A
258	Dual Op Amp	LM258	LM258	LM258	LM258	NEC mPC258	LM258 SA532
26LS31	Quad Hi-Speed Line Driver	AM26LS31	DS26LS31	-	AM26LS31	AMD AM26LS31	AM26LS31
26LS32	Quad Hi-Speed Receiver	AM26LS32	DS26LS32	-	AM26L32	AMD AM26LS32	AM26LS32
26LS33	Quad Hi-Speed Receiver	-	-	-	-	AMD AMD26LS33	AM26LS33
2901	Quad Voltage Comparator	LM2901	LM2901	-	LM2901	-	LM2901
2902	Quad Op Amp	LM2902	LM2902	-	LM2902	-	LM2902 SA534
2903	Dual Voltage Comparator	LM2903	LM2903	-	LM2903	-	LM2903
2904	Dual Op Amp	LM2904	LM2904	-	LM2904	-	LM2904

Competitive cross-reference guide

LINEAR

Numeric	Description	Motorola	National	SGS/ Thompson	Texas Instruments	Others	Philips
293	Dual Comparator	LM293/A	LM293/A	-	LM293/A	-	LM293
311	Voltage Comparator	LM311	LM311	-	LM311	-	LM311
319	High-Speed Dual Comparator	-	LM319	LM319	-	NEC mPC319	LM319
324	Quad Op Amp	LM324/A	LM324/A	LM324	LM324	Samsung LM324	LM324/A
3302	Quad Voltage Comparator	MC3302	-	-	-	-	MC3302
3361	Low Power FM IF	MC3361	-	-	-	Samsung MC3361	MC3361
339	Quad Voltage Comparator	LM339/A	LM339/A	LM339	LM339	RCA CA339	LM339
3524	SMPS Control Circuit	-	LM3524	SG3524	SG3524	Unitrode UC3524	SG3524
358	Dual Op Amp	LM358/A	LM358/A	LM358	LM358/A	RCA CA358/A	LM358/A NE532
361	See 529						
3842	SMPS IC	UC3842AN	-	-	-	Unitrode UC3842	UC3842
393	Dual Comparator	LM393/A	LM393/A	LM393	LM393/A	-	LM393/A
398	Sample-and-Hold Amp	-	LF398	-	-	AMD LF398	LF398 NE5537
4558	Dual General Purpose Op Amp	MC4558	-	-	-	Exar XR4558	NE4558
5007	See DAC-08C						
5008	See DAC-08E						
5009	See DAC-08H						
5018	8-Bit Converter Voltage Out	-	-	-	-	Datel DACmP8B	NE5018
5019	8-Bit D/A Converter Voltage Out	-	-	-	-	Datel DACmP8B	NE5019
5020	10-Bit D/A Converter Voltage Out	-	-	-	-	Datel DACmP10B	NE5020
5170	Octal Line Driver	-	-	-	-	Unitrode UC5170	NE5170
5180	Octal Line Receiver	-	-	-	-	Unitrode UC5180	NE5180
529	High Speed Comparator	-	LM161 LM361	-	-	-	NE529
532	See 358						
5517	See 13600						
5532	Dual Low Noise Op Amp	-	-	-	NE5532/A TL072	Exar XR5532/A	NE5532
5533	Dual Low Noise Op Amp	-	-	-	NE5533/A	Exar XR5533	NE5533

Competitive cross-reference guide

LINEAR

Numeric	Description	Motorola	National	SGS/ Thompson	Texas Instruments	Others	Philips
5534	Low Noise Op Amp	-	-	-	NE5534/A	Exar XR5534	NE5534
5537	See 398						
5539	Fast Op Amp	MC5539	LM5539	-	-	Analog Devices AD5539	NE5539
555	Timer	NE555 MC1455	LM555	NE555	NE555	Exar XR555	NE555
556	Dual Timer	NE556	LM556	NE556	NE556	Samsung NE556	NE556
5560	SMPS Control Circuit	-	-	-	-	Goldstar GL5560	NE5560
5561	SMPS Control Circuit	-	-	-	-	Goldstar GL5561	NE5561
5568	SMPS Control Circuit	-	-	-	-	Sprague ULN8168	NE5568
558	Quad Timer	-	-	-	-	Samsung NE558 Exar XR558	NE558
566	Function Generator	-	LM566	-	-	-	NE566
567	Time Decoder Phase-Locked Loop	-	LM567	-	-	Exar XR567	NE567
571	Compandor	-	-	-	-	NEC mPC571	NE571
592	Video Amplifier	NE592	LM592	-	NE592 TL592	Intersil NE592	NE592
594	Vacuum Fluorescent, Display Driver	-	-	-	-	Exar XR6118 Sprague ULN618	NE594
6012	12-Bit D/A Coverter	-	NS8464	-	-	AMD AM6012	AM6012
6081	See 5018						
723	Precision Voltage Regulator	MC1723	LM723	LM723	mA723	RCA CA723	mA723
733	Differential Video Amp	MC1733	LM733	-	mA733	-	mA733
741	General Purpose Op Amp	MC1741	LM741	LM741	mA741	Samsung LM741	mA741/C
747	Dual Op Amp	MC1747	LM747	-	mA747	RCA CA747	mA747/C
7555	CMOS Timer	-	LMC555	-	TLC555	Intersil ICM7555	ICM7555
7820	See 0820						
8160	See 5560						
8161	See 5561						
8168	See 5568						

Competitive cross-reference guide

LINEAR

Numeric	Description	Motorola	National	SGS/ Thompson	Texas Instruments	Others	Philips
8392	Ethernet Coaxial Transceiver	-	DP8392A	-	-	-	NE8392AN
8464	See 6012						
8564	See 564						

Linear Packaging	Motorola	National	SGS	TI	AMD	EXAR	RCA	Philips
DIP Molded (DIL)	P	N	N	N	P	P	E	N
Hermetic CERDIP (DIL)	U	J	J	J	D	N	D	F
Small Outline (SO)	D	M	M	D	-	-	M	D
Plastic Leaded Chip Carrier (PLCC)	FN	V	-	FN	L	-	Q	A
TO-5	G/H	H-05	-	L	-	-	S	H

MICROCONTROLLERS

Numeric	Intel	AMD	Siemens	Philips
8039	8039AL	-	-	SCN8039H
8049	8049AH	-	-	SCN8049H
8040	8040AHL	-	-	SCN8040H
8050	8050AH	-	-	SCN8050H
8031	8031AH	-	SAB8031A	SCN8031H
8051	8051AH	-	SAB8051A	SCN8051H
8032	8032AH	-	SAB8032A	SCN8032H
8052	8052AH	8052	SAB8052A	SCN8052H
80C31	80C31BH	80C31BH	SAB80C31	SC80C31B
80C32	80C32FA	-	-	P80C32
80C51	80C51BH	80C51BH	SAB80C51	SC80C51B
80C52	83C51FA	-	-	P80C52
87C51	87C51	87C51	-	SC87C51
87C52	87C51FA	87C52T2	-	P87C52

Microcontrollers Packaging	Intel	AMD	Siemens	Philips
DIP Molded (DIL)	P	P	D	N
Hermetic CERDIP (Quartz Window)	-	D	-	F
Ceramic Leaded Chip Carrier (CLCC)	R	-	-	L
Plastic Leaded Chip Carrier (PLCC)	N	L	-	A

Competitive cross-reference guide

CRT

Numeric	Motorola	Philips
2672	MC2672B3P MC2672B4P	SCN2672C4 SCN2672C4
2674	MC2674B3P MC2674B4P	SCN2674BC4 SCN2674BC4
68000	MC68000P8 MC68000P10	SCN68000C8N64 SCN68000CAN64

CRT Packaging	Motorola	Philips
DIP Molded (DIL)	P	N
Plastic Leaded Chip Carrier (PLCC)	FN	A

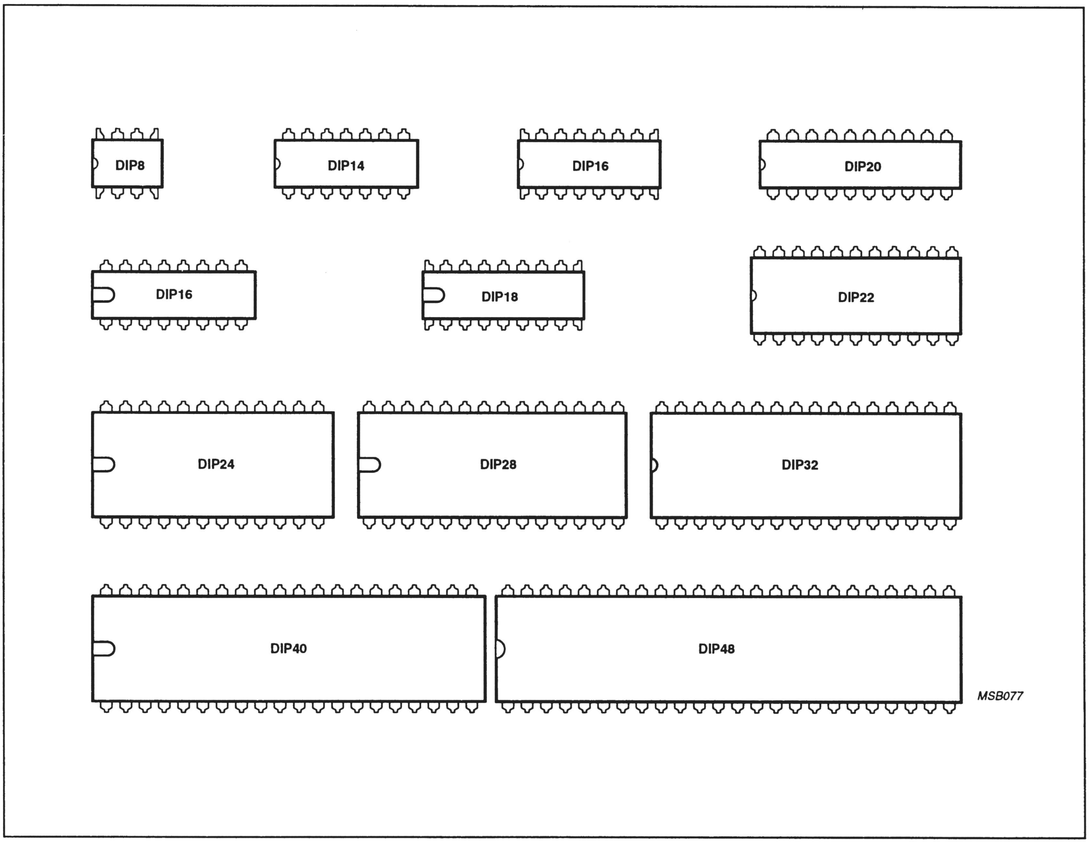
DATA COMMUNICATIONS

Numeric	Exar	Motorola	Standard Microsystems Corporation	Philips
2651	-	-	COM2651	SCN2651
2652/68652	-	MC68652	-	SCN68652
2661/68661	-	MC2661 MC68661	COM2661	SCN2661 SCN68661
2681/68681	XR88C681 XR68C681	MC2681 MC68681	-	SCN2681 SCN68681
2692/68692	XR88C681 XR68C681	-	-	SCC2692 SCC68692
26/68C94	XR88C684	-	-	SC26/68C94

Data Communications Packaging	Exar	Motorola	Standard Microsystems Corporation	Philips
DIP Molded (DIL)	Q	P	P	N
Plastic Leaded Chip Carrier (PLCC)	-	FN	LJ	A
Hermetic CERDIP (DIL)	N	U	CD	F

Package outlines

Dual In-line Plastic (DIP) packages (actual size)

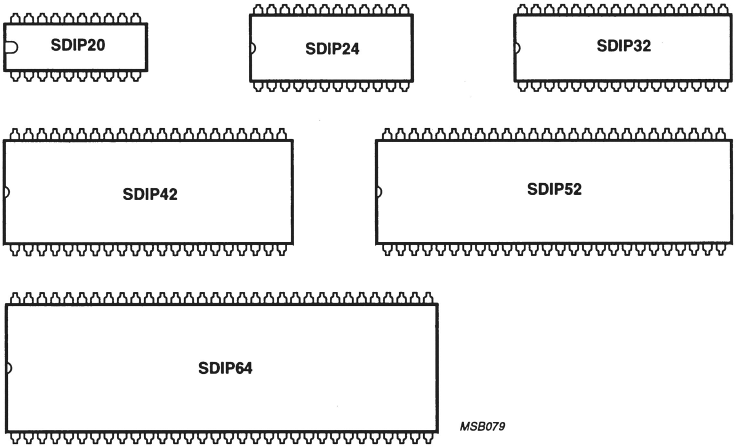

DIP8
DIP14
DIP16
DIP20
DIP16
DIP18
DIP22
DIP24
DIP28
DIP32
DIP40
DIP48
MSB077

Package dimensions (typical)

package	body size (W × L) mm	pitch mm	pitch mils	package	body size (W × L) mm	pitch mm	pitch mils
DIP8	6.35 × 9.40	2.54	100	DIP22	8.64 × 27.8	2.54	100
DIP14	6.35 × 19.02	2.54	100	DIP24	13.8 × 31.7	2.54	100
DIP16	6.35 × 19.02	2.54	100	DIP28	13.8 × 35.7	2.54	100
DIP16	6.35 × 21.6	2.54	100	DIP32	13.97 × 41.1	2.54	100
DIP18	6.35 × 21.6	2.54	100	DIP40	13.8 × 52.0	2.54	100
DIP20	6.35 × 26.6	2.54	100	DIP48	14.02 × 61.7	2.54	100

Package outlines

Shrink Dual In-line Plastic (SDIP) packages (actaul size)

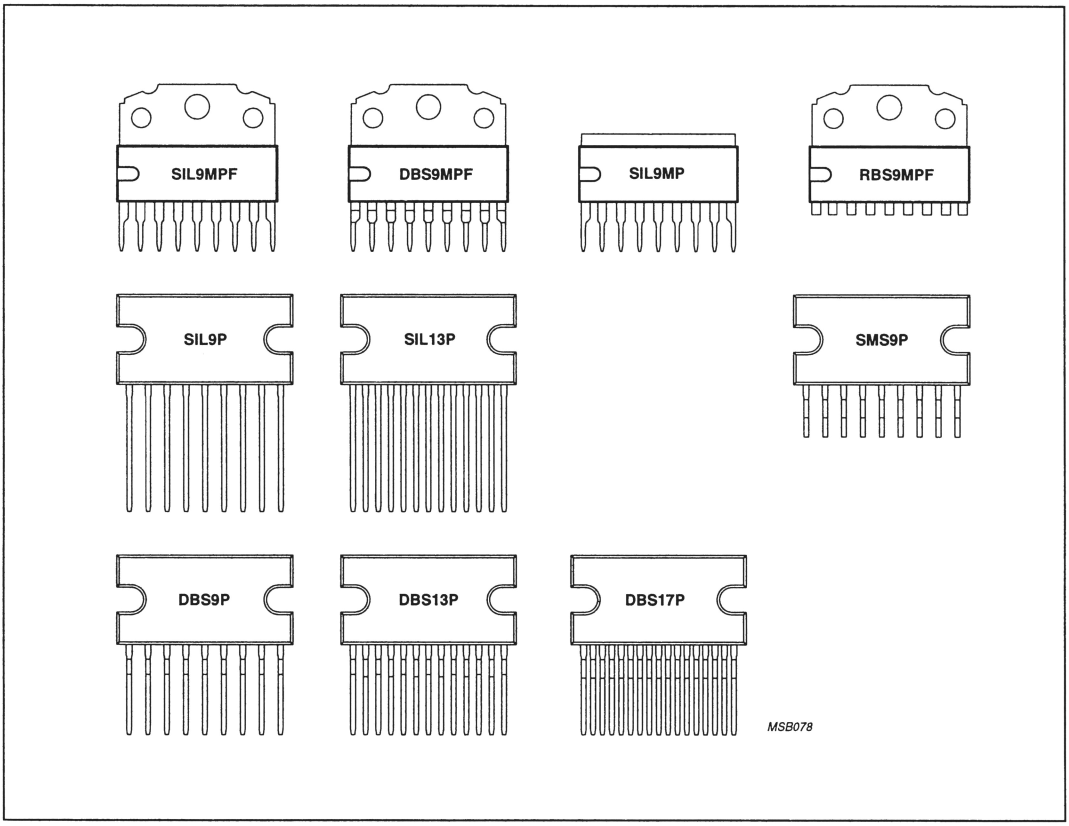

SDIP20
SDIP24
SDIP32
SDIP42
SDIP52
SDIP64
MSB079

Package dimensions (typical)

package	body size (W × L) mm	pitch mm	pitch mils
SDIP20	6.35 × 19.02	1.778	70
SDIP24	8.9 × 21.86	1.778	70
SDIP32	8.9 × 28.98	1.778	70
SDIP42	13.8 × 38.6	1.778	70
SDIP52	13.8 × 47.5	1.778	70
SDIP64	17.0 × 58.16	1.778	70

Package outlines

Single In-Line (SIL) packages (actual size)

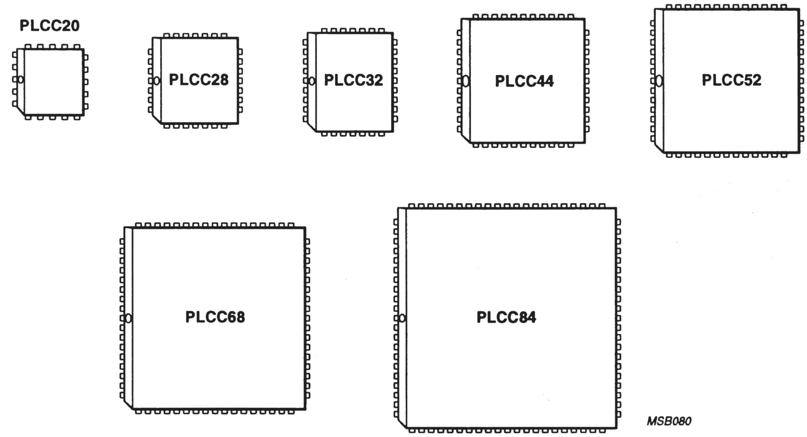

SIL9MPF
DBS9MPF
SIL9MP
RBS9MPF
SIL9P
SIL13P
SMS9P
DBS9P
DBS13P
DBS17P
MSB078

Package dimensions (typical)

	body size		pitch			body size		pitch	
package	(W × L)	mm	mm	mils	package	(W × L)	mm	mm	mils
SIL9P	12.0 × 23.7		2.54	100	DBS9MPF	6.35 × 21.6		5.08	200
SIL9MP	6.35 × 21.6		2.54	100	RBS9MPF	6.35 × 21.6		2.54	100
SIL9MPF	6.35 × 21.6		2.54	100	SIL13P	12.0 × 23.7		1.7	–
SMS9P	12.0 × 23.7		2.54	100	DBS13P	12.0 × 23.7		3.4	–
DBS9P	12.0 × 23.7		5.08	200	DBS17	12.0 × 23.7		1.27	100

Package outlines

Plastic Leaded Chip Carrier (PLCC) packages (actual size)


PLCC20
PLCC28
PLCC32
PLCC44
PLCC52
PLCC68
PLCC84
MSB080

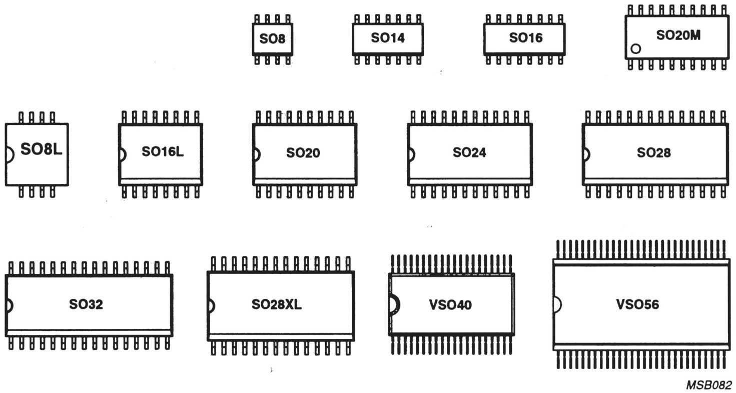
Package dimensions (typical)

package	body size (W × L) mm	pitch mm	pitch mils
PLCC20	8.92 × 8.92	1.27	50
PLCC28	11.46 × 11.46	1.27	50
PLCC32	13.97 × 11.43	1.27	50
PLCC44	16.54 × 16.54	1.27	50
PLCC52	19.08 × 19.08	1.27	50
PLCC68	24.16 × 24.16	1.27	50
PLCC84	29.24 × 29.24	1.27	50

INTEGRATED CIRCUITS

Package outlines

Small Outline (SO) and Very Small Outline (VSO) packges (actual size)

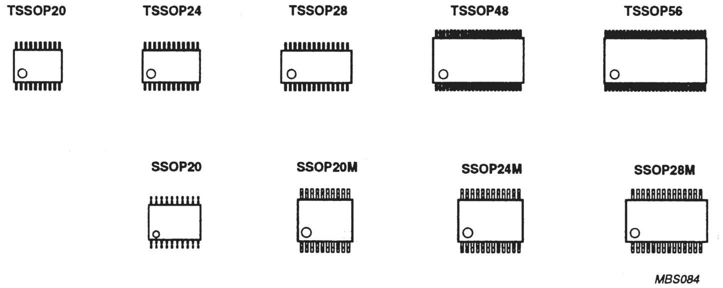

SO8
SO14
SO16
SO20M
SO8L
SO16L
SO20
SO24
SO28
SO32
SO28XL
VSO40
VSO56
MSB082

Package dimensions (typical)

	body size	pitch			body size	pitch	
package	(W × L × T) mm	mm	mils	package	(W × L × T) mm	mm	mils
SO8	3.9 × 4.9 × 1.35	1.27	50	SO24	7.5 × 15.4 × 2.35	1.27	50
SO8L	7.5 × 7.6 × 2.35	1.27	50	SO28	7.5 × 17.9 × 2.35	1.27	50
SO14	3.9 × 8.6 × 1.35	1.27	50	SO28XL	8.4 × 18.0 × 2.70	1.27	50
SO16	3.9 × 9.9 × 1.35	1.27	50	SO32	7.5 × 20.5 × 2.35	1.27	50
SO16L	7.5 × 10.3 × 2.85	1.27	50	VSO40	7.5 × 15.6 × 2.35	0.762	30
SO20	7.5 × 12.8 × 2.35	1.27	50	VSO56	11.1 × 22.0 × 2.9	0.75	–
SO20M	5.3 × 12.6	1.27	50				

Package outlines

Shrink Small Outline (SSOP) and Thin Small Outline (TSSOP) packges (actual size)

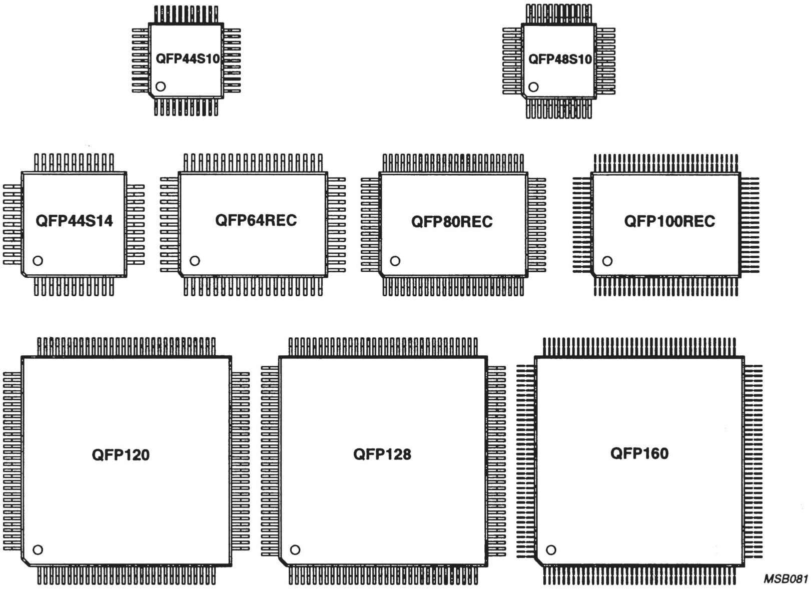

TSSOP20
TSSOP24
TSSOP28
TSSOP48
TSSOP56
SSOP20
SSOP20M
SSOP24M
SSOP28M
MBS084

Package dimensions (typical)

package	body size (W × L × T) mm	pitch mm	package	body size (W × L × T) mm	pitch mm
SSOP20	4.4 × 6.5 × 1.3	0.65	TSSOP20	4.4 × 6.5 × 0.85	0.65
SSOP20M	5.3 × 7.2 × 1.7	0.65	TSSOP24	4.4 × 7.8 × 0.85	0.65
SSOP24M	5.3 × 8.2 × 1.7	0.65	TSSOP28	4.4 × 9.7 × 0.85	0.65
SSOP28M	5.3 × 10.2 × 1.7	0.65	TSSOP48	6.1 × 12.5 × 1.0	0.5
			TSSOP56	6.1 × 14.0 × 1.0	0.5

Package outlines

Quad Flat-Pack (QFP) packages (actual size)

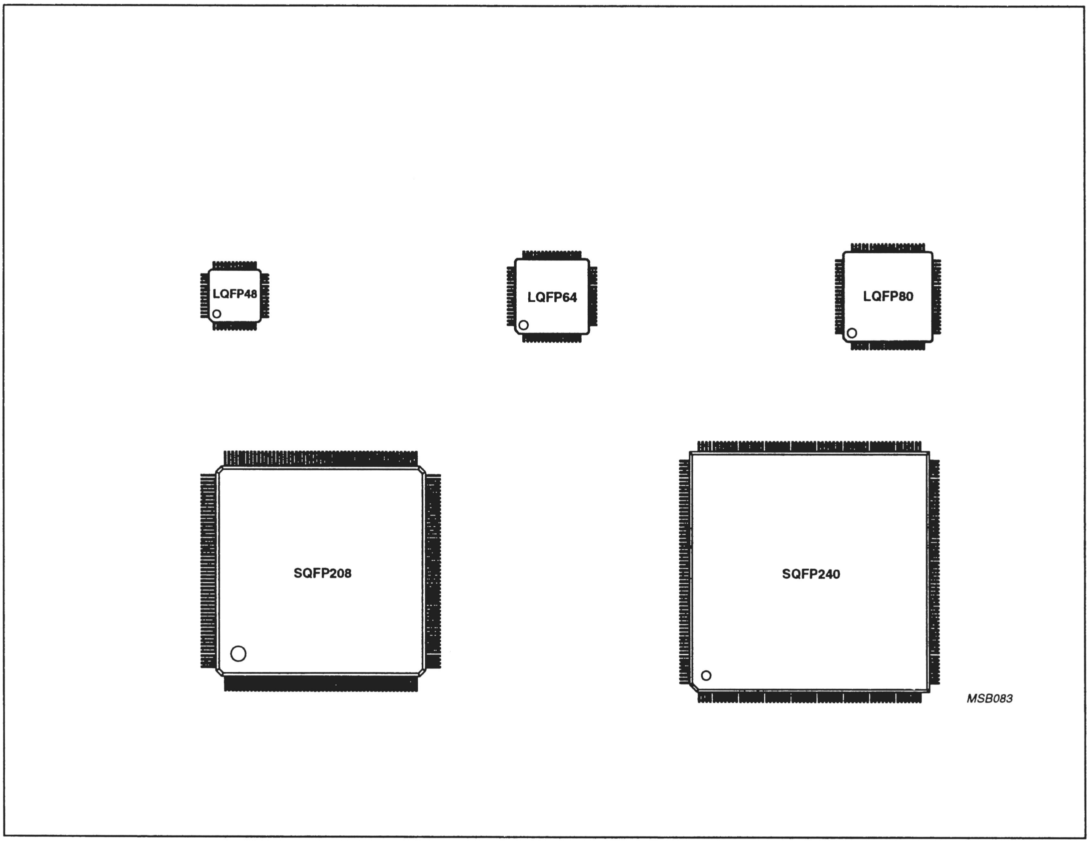

QFP44S10
QFP48S10
QFP44S14
QFP64REC
QFP80REC
QFP100REC
QFP120
QFP128
QFP160
MSB081

Package dimensions (typical)

package	body size (W × L × T) mm	pitch mm	package	body size (W × L × T) mm	pitch mm
QFP32	7 × 7 × 1.4	0.8	QFP80REC	14 × 20 × 2.8	0.8
QFP44S10	10 × 10 × 1.75	0.8	QFP100REC	14 × 20 × 2.8	0.65
QFP44S14	14 × 14 × 2.2	1.0	QFP120	28 × 28 × 3.4	0.8
QFP48S10	10 × 10 × 1.75	0.75	QFP128	28 × 28 × 3.4	0.8
QFP52	10 × 10 × 2.0	0.65	QFP160	28 × 28 × 3.4	0.65
QFP64REC	14 × 20 × 2.75	1.0			

Package outlines

Low-profile (LQFP), Shrink (SQFP) and Thin Quad Flat-Pack (TQFP) packages (actual size)



Package dimensions (typical)

package	body size (W × L × T) mm	pitch mm	package	body size (W × L × T) mm	pitch mm
LQFP32	7 × 7 × 1.4	0.8	TQFP44	10 × 10 × 1.0	0.8
LQFP44	10 × 10 × 1.4	0.8	TQFP64	10 × 10 × 1.0	0.5
LQFP48	7 × 7 × 1.4	0.5	TQFP80	12 × 12 × 1.0	0.5
LQFP64	10 × 10 × 1.4	0.5	TQFP100	14 × 14 × 1.0	0.5
LQFP80	12 × 12 × 1.4	0.5			
SQFP208	28 × 28 × 3.4	0.5			
SQFP240	32 × 32 × 3.4	0.5			

Discrete Semiconductors

4

Discrete semiconductors

Discrete semiconductors

CONTENTS

page

SMALL-SIGNAL TRANSISTORS & DIODES & MEDIUM-POWER RECTIFIERS 4-5

Small-signal bipolar transistors 4-5
General-purpose low-frequency transistors 4-5
Low-noise transistors 4-17
Medium-frequency transistors 4-19
Switching transistors 4-21
High-voltage transistors 4-28
Digital transistors 4-32
PNPN devices 4-33

Small-signal FETs 4-35
Junction FETs for amplifiers 4-35
N-channel junction FETs for amplifiers 4-36
Junction FETs for switching 4-38
N-channel single-gate MOSFETs 4-41
N-channel dual-gate MOSFETs 4-41
Vertical D-MOSFETs 4-42
Low-ohmic vertical D-MOSFETs 4-46

Tuner transistors and diodes 4-47
Tuner transistors 4-47
N-channel dual-gate MOSFETs 4-47
Varicap diodes 4-48
Schottky-barrier mixer diode 4-49
Band-switching diodes 4-49
UHF mixing diodes 4-49

Small-signal diodes 4-50
High-speed switching and general-purpose diodes 4-50
Low-leakage diodes 4-53
Band-switching diodes 4-53
Schottky-barrier diodes 4-54
Low-voltage stabistors 4-56
Zener diodes 4-57
Voltage-reference diodes 4-59
Transient-voltage suppressors 4-59

Medium power rectifiers 4-60
General-purpose rectifiers 4-60
Damper diodes 4-61
General-purpose avalanche rectifiers 4-62
Fast soft-recovery controlled-avalanche rectifiers 4-64
Ultra-fast low-loss controlled-avalanche rectifiers 4-67
Schottky-barrier diodes 4-69
Voltage regulator diodes 4-70
Transient voltage suppressors 4-70
High-voltage soft-recovery rectifiers 4-71

continued

Discrete semiconductors

CONTENTS *(continued)*

page

POWER SEMICONDUCTORS 4-73

PowerMOS transistors including TOPFETs and IGBTs 4-73

High-voltage and switching NPN power transistors 4-77

Power diodes 4-79

Thyristors and Triacs 4-82

RF & MICROWAVE SEMICONDUCTORS AND MODULES 4-84

Discrete semiconductors 4-84
Tuner transistors and diodes 4-84
Wideband transistors 4-87
Video transistors 4-96
RF power transistors 4-97
Microwave transistors 4-108

Modules 4-113
Wideband amplifiers 4-113
Video amplifiers 4-114
CATV amplifiers 4-115
RF power amplifiers 4-119

Application information:

Line-ups for: 4-121
Tuner semiconductors 4-121
Wideband transistors 4-122
Video amplifiers 4-126
RF power amplifiers 4-127
Microwave amplifiers 4-137

MARKING CODES FOR SMALL DEVICES 4-138

CROSS-REFERENCE INDUSTRY STANDARD TO PHILIPS DEVICES 4-158

PACKING QUANTITIES 4-231

PACKAGE OUTLINES 4-237

GENERAL-PURPOSE LOW-FREQUENCY TRANSISTORS OVERVIEW

PRODUCT DATA: PAGES 7-16

LOW-POWER

NPN

leaded		surface-mount				
TO-18/ TO-71*	TO-92	SC59/SC70†	SOT23/ SOT143^{+}	SOT89	SOT223	SOT323
BC107/108	BC546/547	PUMX1††	BC846/847			BC846W/847W
BCY58/59	BCX58	PUMZ1††	BCV61/63/65$^{+1)}$			PMSS3904
2N2483/2484	JC500/501	2PB1219†	BCV71/72			
	JC546-48	2PB1219A†	BCW31-33			
	MPS3704-3706	2PD601/A	BCW60			
	MPS3904	2PC4081†	BCW71/72			
	MPS6513-6515		BCW81			
	MPS6520/6521		BCX70			
	2PC945		PMBS3904			
	2PC1815					
			PMBT6428/6429			PMST6428/6429
	BC337/338	2PD602/A	BC817/818			BC817W/818W
	JC337/338		BCX19/20			
	MPS6531/6532		PMBTA06			
	MPSA05/06					
			BSS64			
BCY87-89*$^{1)}$						
DARLINGTONS						
	BC517		BCV27/47	BCV29/49	PZTA14	
	BC617/618		PMBTA13/14	PXTA14		
	MPSA13/14			PXTA27		
	MPSA25					
	2N6427					

$^{1)}$ double transistor
* TO-71 + SOT143 † SC70 / †† SC70-6

MEDIUM-POWER

NPN

leaded				surface-mount	
TO-39	TO-92	TO-126	TO-202	SOT89	SOT223
	BC635	BD135	BD825	BCX54-56	BCP54-56
	BC637	BD137	BD827		
	BC639	BD139	BD829		
	BC368	BD329		BC868	BCP68
BC140/141				BSR40-43	BSP40/41/43
BFX85					
BFY50-52					
BSX45-47					
2N1711					
2N1893					

GENERAL-PURPOSE LOW-FREQUENCY TRANSISTORS OVERVIEW (CONT.)

LOW-POWER PNP

leaded	surface-mount					
TO-92	SC59	SC70	SOT23	SOT89	SOT223	SOT323
BC556-559 BCX78 JA100/101 JC556-558 MPS3702/3703 MPS3906 MPS6517/6519 MPS6522/6523 2PA733 2PA1015	2PB709/A	PUMT1†† 2PA1576	BC856/857/858 BCV62[1]/64[1] BCW29/30 BCW61 BCW69/70 BCW89 BCX71 PMBS3906			BC856W-858W PMSS3906
BC327/A BC328 JC327/328 MPS6534/6535 MPSA55/56	2PB710/A		BC807/808 BCX17/18 PMBTA55/56		PZTA55/56	BC807W/808W
DARLINGTONS						
BC516 MPSA63/64 MPSA76/77			BCV26/46 PMBTA63/64	BCV28/48 PXTA64	PZTA64	
BSS68			BSS63			

[1] double transistor

†† SC70-6

MEDIUM-POWER PNP

leaded				surface-mount	
TO-39	TO-92	TO-126	TO-202	SOT89	SOT223
	BC636 BC638 BC640	BD136 BD138 BD140	BD826 BD828 BD830	BCX51-53	BCP51-53
	BC369	BD330		BC869	BCP69
BC160/161 BSV15-17 2N4031/4033				BSR30-33	BSP30-33

GENERAL–PURPOSE LOW–FREQUENCY BIPOLAR TRANSISTORS

LEADED TYPES

type number	ratings			characteristics					
	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max. @	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V) @	I_C/I_B (mA/mA)	f_T typ. (MHz)	package
NPN									
BC107	45	100	300	125/500	2/–	–	–	300	TO–18
BC108	20	100	300	125/900	2/–	–	–	300	TO–18
BC140	40	1000	3700	40/250	100/–	–	–	50[1]	TO–39
BC141	60	1000	3700	40/250	100/–	–	–	50[1]	TO–39
BC337	45	500	800	100/600	100/–	–	–	100	TO–92
BC337A	60	500	800	100/600	100/–	–	–	100	TO–92
BC338	25	500	800	100/600	100/–	–	–	100	TO–92
BC368	20	1000	800	85/375	500/–	–	–	60	TO–92
BC517	30	400	625	30000/–	20/–	–	–	220	TO-92
BC546	65	100	500	110/450	2/–	–	–	300	TO–92
BC547	45	100	500	110/800	2/–	–	–	300	TO–92
BC548	30	100	500	110/800	2/–	–	–	300	TO–92
BC617[2]	40	1000	625	4000/–	1/–	–	–	155	TO–92
BC618[2]	55	1000	625	2000/–	1/–	–	–	155	TO–92
BC635	45	1000	1000	40/250	150/–	–	–	130	TO–92
BC637	60	1000	1000	40/160	150/–	–	–	130	TO–92
BC639	80	1000	1000	40/160	150/–	–	–	130	TO–92
BCX22	125	800	450	63/–	100/1	0.9	300/30	100[1]	TO–18
BCX58	32	200	450	–	–/–	–	–	125[1]	TO–92
BCY58	32	200	330	125/700	2/–	–	–	150[1]	TO–18
BCY59	45	200	330	125/700	2/–	–	–	150[1]	TO–18
BCY87[3]	40	30	150	100/450	0.05/–	–	–	10[1]	TO–71
BCY88[3]	40	30	150	100/450	0.05/–	–	–	10[1]	TO–71
BCY89[3]	40	30	150	100/450	0.05/–	–	–	10[1]	TO–71
BD131	45	3000	15000	40/-	500/12	–	–	60[1]	TO-126
BD135	45	1500	8000	40/250	150/–	–	–	250	TO–126
BD137	60	1500	8000	40/250	150/–	–	–	250	TO–126
BD139	100	1500	8000	40/250	150/–	–	–	250	TO–126
BD226	45	1500	12500	40/–	150/2	–	–	125	TO-126
BD329	20	3000	15000	85/375	500/–	–	–	130	TO–126
BD825	45	1000	2000	40/250	150/–	–	–	250	TO–202
BD827	60	1000	2000	40/250	150/–	–	–	250	TO–202
BD829	80	1000	2000	40/250	150/–	–	–	250	TO–202
BD839	45	1500	10000	40/–	150/2	–	–	125	TO-202
BDX35	60	5000	15000	45/–	500/10	–	–	100	TO-126
BDX42[2]	45	1000	1250	2000/–	500/10	1.6	1000/4	100	TO–126
BDX43[2]	60	1000	1250	2000/–	500/10	1.6	1000/1	100	TO–126
BDX44[2]	80	1000	1250	2000/–	500/10	1.6	1000/4	100	TO–126
BFX34	60	2000	5000	40/150	2000/–	–	–	70[1]	TO–39
BFX85	60	1000	800	70/–	150/–	–	–	50[1]	TO–39
BFY50	35	1000	5000	112 typ.	150/–	–	–	140	TO–39
BFY51	30	1000	5000	123 typ.	150/–	–	–	160	TO–39
BFY52	20	1000	5000	142 typ.	150/–	–	–	185	TO–39

continued

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED)

LEADED TYPES

	ratings			characteristics					
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max. @	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V) @	I_C/I_B (mA/mA)	f_T typ. (MHz)	package
NPN									
BSR50[2]	45[4]	1000	800	2000/–	500/–	–	–	–	TO–92
BSR51[2]	60[4]	1000	800	2000/–	500/–	–	–	–	TO–92
BSR52[2]	80[4]	1000	800	2000/–	500/–	–	–	–	TO–92
BSS50[2]	45[4]	1000	5000	2000/–	500/–	–	–	–	TO–39
BSS51[2]	60[4]	1000	5000	2000/–	500/–	–	–	–	TO–39
BSS52[2]	80[4]	1000	5000	2000/–	500/–	–	–	–	TO–39
BSV64	60	2000	5000	40/–	2000/–	–	–	100	TO–39
BSW66A	100	1000	5000	30/–	500/–	–	–	130	TO–39
BSW66/PH	100	1000	800	30/–	500/5	1	1000/150	130[1]	TO–39
BSW67A	120	1000	5000	30/–	500/–	–	–	130	TO–39
BSW67/PH	120	2000	800	30/–	500/5	1	1000/150	130[1]	TO–39
BSW68A	150	1000	5000	30/–	500/–	–	–	130	TO–39
BSW68/PH	150	2000	800	30/–	500/5	1	1000/150	130[1]	TO–39
BSX19/PH	15	500	360	20/60	10/1	0.6	100/10	500[1]	TO–18
BSX45	40	1000	6250	40/250	100/–	–	–	50[1]	TO–39
BSX46	60	1000	6250	40/250	100/–	–	–	50[1]	TO–39
BSX47	80	1000	6250	40/250	100/–	–	–	50[1]	TO–39
BSY52	25	500	3000	100/300	150/10	0.8	150/15	130	TO–39
BSY53	30	750	3000	40/120	150/10	0.6	150/15	100	TO–39
BSY54	30	750	3000	100/300	150/10	0.6	150/15	145	TO–39
BSY55	80	500	3000	40/120	150/10	0.6	150/15	100	TO–39
BSY56	80	500	3000	100/300	150/10	0.6	150/15	145	TO–39
BSY79	120	30	300	30/–	1/1	0.5	2/0.2	100[1]	TO–18
JC337	45	1000	800	100/600	100/–	–	–	100	TO–92
JC337A	60	1000	800	100/600	100/–	–	–	100	TO–92
JC338	25	1000	800	100/600	100/–	–	–	100	TO–92
JC500	25	100	500	90/600	1/–	–	–	130	TO–92
JC501	45	100	500	90/600	1/–	–	–	130	TO–92
JC546	65	100	500	110/450	2/–	–	–	300	TO–92
JC547	45	100	500	110/800	2/–	–	–	300	TO–92
JC548	30	100	500	110/800	2/–	–	–	300	TO–92
MPS3704	30	600	625	100/30	50/–	–	–	100	TO–92
MPS3705	30	600	625	50/150	50/–	–	–	100	TO–92
MPS3706	20	600	625	30/600	50/–	–	–	100	TO–92
MPS3904	40	200	625	100/300	10/–	–	–	300	TO–92
MPS6513	30	100	625	60/–	100/–	–	–	–	TO–92
MPS6514	25	100	625	90/–	100/–	–	–	–	TO–92
MPS6515	25	100	625	150/–	100/–	–	–	–	TO–92
MPS6520	25	100	625	200/400	2/–	–	–	–	TO–92
MPS6521	25	100	625	300/600	2/–	–	–	–	TO–92
MPS6531	40	600	625	90/270	100/–	–	–	–	TO–92
MPS6532	40	600	625	30/–	100/–	–	–	–	TO–92
MPS8098	60	600	625	100/300	1/5	0.4	100/5	100[1]	TO–92
MPSA05	60	500	625	50/–	10/–	–	–	100[1]	TO–92
MPSA06	80	500	625	50/–	10/–	–	–	100[1]	TO–92

continued

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED) LEADED TYPES

type number	ratings			characteristics					package
	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max. @	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V) @	I_C/I_B (mA/mA)	f_T typ. (MHz)	
NPN									
PH2222	30	800	625	75/–	10/–	–	–	250[1]	TO–92
PH2222A	40	800	625	75/–	10/–	–	–	300[1]	TO–92
PN2222	30	600	625	100/300	150/–	–	–	250[1]	TO–92
PN2222A	40	600	625	100/300	150/–	–	–	250[1]	TO–92
2N1711	50[4]	1000[5]	800	100/300	150/–	–	–	70[1]	TO–39
2N1893	80	500	3000	40/120	150/–			50[1]	TO–39
2N2102/PH	65	1000	1000	40/120	150/10	0.5	150/15	120[1]	TO–39
2N2219	30	800	800	100/300	150/–	–	–	250[1]	TO–39
2N2219A	40	800	800	100/300	150/–	–	–	300[1]	TO–39
2N2405/PH	90	1000	1000	60/200	150/10	0.5	150/15	120[1]	TO–39
2N2483	60	50[5]	360	–/500	10/–	–	–	80	TO–18
2N2484	60	50[5]	360	–/800	10/–	–	–	80	TO–18
2N3700/PH	80	1000	500	100/300	150/10	0.5	500/50	100[1]	TO–18
2N4124	25	200	350	120/480	2/1	–	–	300[1]	TO–92
2N4401	40	600	625	100/300	100/–	–	–	250[1]	TO–92
2N6427[2]	30	400	625	30000/–	20/2	1	100/0.1	220	TO–92
2PC945	50	100	500	90/600	1/–	–	–	150[1]	TO–92
2PC1815	50	150	500	120/700	2/–	–	–	80[1]	TO–92

[1] minimum value
[2] darlington
[3] double transistor
[4] V_{CER}
[5] I_{CM}

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED) LEADED TYPES

	ratings			characteristics					
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} @ min./max.	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ @ max. (V)	I_C/I_B (mA/mA)	f_T typ. (MHz)	package
PNP									
BC160	40	1000	3700	40/250	100/–	–	–	50[1)]	TO–39
BC161	60	1000	3700	40/250	100/–	–	–	50[1)]	TO–39
BC177	45	100	300	75/260	2/–	–	–	150	TO–18
BC327	45	500	800	100/600	100/–	–	–	100	TO–92
BC327A	60	500	800	100/600	100/–	–	–	100	TO–92
BC328	25	500	800	100/600	100/–	–	–	100	TO–92
BC369	20	1000	800	85/375	500/–	–	–	60	TO–92
BC516[2)]	30	400	625	30000/–	20/–	–	–	220	TO–92
BC556	65	100	500	75/475	2/–	–	–	150	TO–92
BC557	45	100	500	75/800	2/–	–	–	150	TO–92
BC558	30	100	500	75/800	2/–	–	–	150	TO–92
BC636	45	1000	1000	40/250	150/–	–	–	50	TO–92
BC638	60	1000	1000	40/250	150/–	–	–	50	TO–92
BC640	80	1000	1000	40/250	150/–	–	–	50	TO–92
BC876	45	1000	800	1000/–	150/–	–	–	200	TO–92
BC878	60	1000	800	1000/–	150/–	–	–	100[1)]	TO–92
BC880	80	1000	800	1000/–	150/–	–	–	200	TO–92
BCX23	125	800	450	63/–	100/1	0.9	300/30	100	TO–18
BCX78	32	200	450	120/630	2/5	–	–	200[1)]	TO–92
BCY78	32	200	345	125/700	2/–	–	–	180	TO–18
BCY79	45	200	345	125/700	2/–	–	–	180	TO–18
BD132	45	3000	15000	40/–	500/12	–	–	60[1)]	TO-126
BD136	45	1500	8000	40/250	150/–	–	–	75	TO–126
BD138	60	1500	8000	40/250	150/–	–	–	75	TO–126
BD140	100	1500	8000	40/250	150/–	–	–	75	TO–126
BD227	45	1500	12500	40/–	150/2	–	–	50	TO-126
BD330	20	3000	15000	85/375	500/–	–	–	100	TO–126
BD826	45	1000	2000	40/250	150/–	–	–	75	TO–126
BD828	60	1000	2000	40/250	150/–	–	–	75	TO–126
BD830	80	1000	2000	40/250	150/–	–	–	75	TO–126
BDX45[2)]	45	1000	1250	2000/–	500/10	1.6	1000/4	100	TO–126
BDX46[2)]	60	1000	1250	2000/–	500/10	1.6	1000/1	100	TO–126
BDX47[2)]	80	1000	1250	2000/–	500/10	1.6	1000/4	100	TO–126
BFX30	65	600	600	50/200	10/–	–	–	–	TO–39
BSR60[2)]	45[3)]	1000	800	2000/–	500/–	–	–	–	TO–92
BSR61[2)]	60[3)]	1000	800	2000/–	500/–	–	–	–	TO–92
BSR62[2)]	80[3)]	1000	800	2000/–	500/–	–	–	–	TO–92
BSS46	80	5000	5000	30/–	2000/–	–	–	70[1)]	TO–39

continued

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED) LEADED TYPES

	ratings			characteristics					
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max. @	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V) @	I_C/I_B (mA/mA)	f_T typ. (MHz)	package
PNP									
BSS62[2]	80[3]	1000	5000	2000/–	500/–	–	–	–	TO–39
BSS68	100	100	500	30/–	25/–	–	–	50[1]	TO–92
BSV15	40	1000	5000	40/250	100/–	–	–	50[1]	TO–39
BSV16	60	1000	5000	40/250	100/–	–	–	50[1]	TO–39
BSV17	80	1000	5000	40/250	100/–	–	–	50[1]	TO–39
JA100	25	100	500	90/600	1/–	–	–	130	TO–92
JA101	45	100	500	90/600	1/–	–	–	130	TO–92
JC327	45	1000	800	100/600	100/–	–	–	100	TO–92
JC327A	60	1000	800	100/600	100/–	–	–	100	TO–92
JC328	25	1000	800	100/600	100/–	–	–	100	TO–92
JC556	65	100	500	75/475	2/–	–	–	200	TO–92
JC557	45	100	500	75/800	2/–	–	–	200	TO–92
JC558	30	100	500	75/800	2/–	–	–	200	TO–92
MPS3702	25	600	625	60/300	50/–	–	–	100	TO–92
MPS3703	30	600	625	30/150	50/–	–	–	100	TO–92
MPS3906	40	200	625	100/300	10/–	–	–	300	TO–92
MPS6517	40	100	625	60/–	100/–	–	–	–	TO–92
MPS6519	25	100	625	150/–	100/–	–	–	–	TO–92
MPS6522	25	100	625	200/400	2/–	–	–	–	TO–92
MPS6523	25	100	625	400/600	2/–	–	–	–	TO–92
MPS6534	40	600	625	90/270	100/–	–	–	–	TO–92
MPS6535	40	600	625	30/–	100/–	–	–	–	TO–92
MPS8598	60	600	625	100/300	1/5	0.4	100/5	100[1]	TO–92
MPSA55	60	500	625	50/–	100/–	–	–	50[1]	TO–92
MPSA56	80	500	625	50/–	100/–	–	–	50[1]	TO–92
MPSA63[2]	30[1]	500	625	5000/–	10/–	–	–	125[1]	TO–92
MPSA64[2]	30[1]	500	625	10000/–	10/–	–	–	125[1]	TO–92
MPSA76[2]	50	500	500	10000/–	–	–	–	220	TO–92
MPSA77[2]	60	500	500	10000/–	–	–	–	220	TO–92
PH2907	40	600	625	100/300	150/–	–	–	200[1]	TO–92
PH2907A	60	600	625	100/300	150/–	–	–	200[1]	TO–92
2N2905	40	600	600	100/300	150/–	–	–	200	TO–39
2N2905A	60	600	600	100/300	150/–	–	–	200	TO–39
2N3963/PH	80	200	360	100/450	1/5	0.4	50/5	40[1]	TO–18
2N3964/PH	45	200	360	250/600	1/5	0.4	50/5	50[1]	TO–18
2N4029/PH	80	1000	500	100/300	100/5	0.5	500/50	150[1]	TO–18
2N4031	80	1000	800	40/120	100/–	–	–	100[1]	TO–39
2N4033	80	1000	800	100/300	100/–	–	–	150[1]	TO-39
2N4035/PH	40	100	360	150/300	10/1	0.3	50/5	450[1]	TO–18
2N4037/PH	40	1000	1000	50/250	150/10	1.4	150/15	60[1]	TO–39

continued

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED)

LEADED TYPES

	ratings			characteristics					
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max. @	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V) @	I_C/I_B (mA/mA)	f_T typ. (MHz)	package
PNP									
2N4126	25	200	350	120/480	2/–	–	–	250[1]	TO–92
2N5680	120	1000	1000	40/150	250/–	–	–	30	TO–39
2PA733	50	100	500	90/600	1	–	–	100[1]	TO–92
2PA1015	50	150	500	120/400	2	–	–	80[1]	TO–92

[1] minimum value

[2] darlington

[3] V_{CER}

[4] V_{CES}

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED) **SURFACE–MOUNT TYPES**

	ratings			characteristics					
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min/./max. @	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ (V) @	I_C/I_B (mA/mA)	f_T typ. (MHz)	package
NPN									
BC817	45	500	250	100/600	100/1	0.7	500/50	100[1]	SOT23
BC817W	45	500	200	100/600	100/1	0.7	500/50	100[1]	SOT323
BC818	25	500	250	100/600	100/1	0.7	500/50	100[1]	SOT23
BC818W	25	500	200	100/600	100/1	0.7	500/50	100[1]	SOT323
BC846	65	100	250	110/450	2/5	0.25	10/0.5	100[1]	SOT23
BC846W	65	100	200	110/450	2/5	0.25	10/0.5	100[1]	SOT323
BC847	45	100	250	110/800	2/5	0.25	10/0.5	100[1]	SOT23
BC847W	45	100	200	110/800	2/5	0.25	10/0.5	100[1]	SOT323
BC848	30	100	250	110/800	2/5	0.25	10/0.5	100[1]	SOT23
BC848W	30	100	200	110/800	2/5	0.25	10/0.5	100[1]	SOT323
BC868	20	1000	1000	85/375	500/1	0.5	1000/100	60	SOT89
BCP54	45	1000	1500	40/250	150/2	0.5	500/50	130	SOT223
BCP55	60	1000	1500	40/250	150/2	0.5	500/50	130	SOT223
BCP56	80	1000	1500	40/250	150/2	0.5	500/50	130	SOT223
BCP68	20	1000	1500	85/375	500/1	0.5	1000/100	60	SOT223
BCV27[2]	30	300	250	20000/–	100/5	1.0	100/0.1	220	SOT23
BCV29[2]	30	500	1000	20000/–	100/5	1.0	100/0.1	220	SOT89
BCV47[2]	60	500	250	4000/–	10/5	1.0	100/0.1	220	SOT23
BCV49[2]	60	500	1000	10000/–	100/5	1.0	100/0.1	220	SOT89
BCV61[3]	30	100	250	100/800	2/5	0.6	100/5	300	SOT143
BCV63[3]	30	100	250	100/900	2/5	0.6	100/5	200	SOT143
BCV65[6]	30	100	250	75/800	2/5	0.3	10/0.5	100	SOT143
BCV71	60	100	250	110/220	2/5	0.25	10/0.5	300	SOT23
BCV72	60	100	250	200/450	2/5	0.25	10/0.5	300	SOT23
BCW31	32	100	250	110/220	2/5	0.25	10/0.5	300	SOT23
BCW32	32	100	250	200/450	2/5	0.25	10/0.5	300	SOT23
BCW33	32	100	250	420/800	2/5	0.25	10/0.5	300	SOT23
BCW60A	32	200	250	120/220	2/5	0.35	10/0.25	250	SOT23
BCW60B	32	200	250	180/310	2/5	0.35	10/0.25	250	SOT23
BCW60C	32	200	250	250/460	2/5	0.35	10/0.25	250	SOT23
BCW60D	32	200	250	380/630	2/5	0.35	10/0.25	250	SOT23
BCW71	45	100	250	110/220	2/5	0.25	10/0.5	300	SOT23
BCW72	45	100	250	200/450	2/5	0.25	10/0.5	300	SOT23
BCW81	45	100	250	420/800	2/5	0.25	10/0.5	300	SOT23
BCX19	45	500	250	100/600	100/1	0.62	500/50	200	SOT23
BCX20	25	500	250	100/600	100/1	0.62	500/50	200	SOT23
BCX54	45	1000	1000	45/250	150/2	0.5	500/50	130	SOT89
BCX55	60	1000	1000	40/160	150/2	0.5	500/50	130	SOT89
BCX56	80	1000	1000	40/160	150/2	0.5	500/50	130	SOT89
BCX70G	45	200	250	120/220	2/5	0.35	10/0.25	250	SOT23
BCX70H	45	200	250	180/310	2/5	0.35	10/0.25	250	SOT23
BCX70J	45	200	250	250/460	2/5	0.35	10/0.25	250	SOT23
BCX70K	45	200	250	380/630	2/5	0.35	10/0.25	250	SOT23
BDP31	45	3000	1500	40/–	500/12	0.3	500/50	60[1]	SOT223
BSP40	60	1000	1500	40/120	100/5	0.25	150/15	100	SOT223
BSP41	60	1000	1500	100/300	100/5	0.25	150/15	100	SOT223
BSP43	80	1000	1500	100/300	100/5	0.25	150/15	100	SOT223

continued

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED) SURFACE–MOUNT TYPES

	ratings			characteristics					
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min/./max.	@ I_C/V_{CE} (mA/V)	$V_{CEsat.}$ (V)	@ I_C/I_B (mA/mA)	f_T typ. (MHz)	package
NPN									
BSR13	30	800	250	100/300	150/10	1.6	500/50	250	SOT23
BSR14	40	800	250	100/300	150/10	1.0	500/50	250	SOT23
BSR40	60	1000	1000	40/120	100/5	0.5	500/50	100	SOT89
BSR41	60	1000	1000	100/300	100/5	0.5	500/50	100	SOT89
BSR42	80	1000	1000	40/120	100/5	0.5	500/50	100	SOT89
BSR43	80	1000	1000	100/300	100/5	0.5	500/50	100	SOT89
BSS64	80	100	250	20/80	10/1	0.2	50/15	60	SOT23
BST50[2]	45[4]	500	1000	1000/–	150/10	1.3	500/0.5	–	SOT89
BST51[2]	60[4]	500	1000	1000/–	150/10	1.3	500/0.5	–	SOT89
BST52[2]	80[4]	500	1000	1000/–	150/10	1.3	500/0.5	–	SOT89
MPSA13[2]	30[5]	500	625	5000/–	10/–	1.5	100/0.1	125[1]	TO-92
MPSA14[2]	30[5]	500	625	10000/–	10/–	1.5	100/0.1	125[1]	TO-92
PMBS3904	40	200	300	100/300	10/1	0.2	10/1	300	SOT23
PMBT5089	25	200	250	450/–	1/5	500	10/1	300	SOT23
PMBT6428	50	200	250	250/650	0.1/5	0.2	10/0.5	300	SOT23
PMBT6429	45	200	250	500/1250	0.1/5	0.2	10/0.5	300	SOT23
PMBTA06	80	500	250	50/–	10/1	0.25	100/10	100	SOT23
PMBTA13[2]	30[5]	300	250	5000/–	10/5	1.5	100/0.1	125	SOT23
PMBTA14[2]	30[5]	300	250	10000/–	10/5	1.5	100/0.1	125	SOT23
PMBTA20	40	200	250	40/400	5/10	0.25	10/1	300	SOT23
PMSS3904	40	200	200	100/300	10/1	0.2	10/1	–	SOT323
PMSS3906	40	200	200	100/300	10/1	0.25	10/1	–	SOT323
PMST6428	50	200	200	250/650	0.1/5	0.2	10/0.5	100[1]	SOT323
PMST6429	45	200	200	500/1250	0.1/5	0.2	10/0.5	100[1]	SOT323
PUMX1[3]	40	100	300	120	1/6	0.2	50/5	100	SC70-6
PUMZ1[6]	40	100	300	120	1/6	0.2	50/5	100	SC70-6
PXTA14[2]	30[5]	300	1000	20000/–	100/5	1.5	100/0.1	125	SOT89
PXTA27[2]	60[5]	500	1000	10000/–	100/5	1.5	100/0.1	125	SOT89
PZTA06	80	500	1500	50/–	10/1	0.25	100/10	100[1]	SOT223
PZTA14[2]	30	300	1500	10000/–	10/5	1.5	100/0.1	125	SOT223
2PB1219	25	1000	200	85/340	150/10	0.6	300/30	100	SC70
2PB1219A	50	1000	200	85/340	150/10	0.6	300/30	100	SC70
2PD601	25	100	200	160 to 460[7]	2/10	0.5	100/10	100[1]	SC59
2PD601A	50	100	200	160 to 460[7]	2/10	0.5	100/10	100[1]	SC59
2PD602	25	500	200	85 to 340[7]	150/10	0.6	300/30	150[1]	SC59
2PD602A	50	500	200	85 to 340[7]	150/10	0.6	300/30	150[1]	SC59
2PC4081	40	100	200	120 to 560[7]	1/6	0.4	50/5	100[1]	SOT323

[1] minimum value

[2] darlington

[3] double transistor

[4] V_{CER}

[5] V_{CES}

[6] NPN/PNP matched pair

[7] available in three gain groups (Q, R, & S) within the specified range

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED) SURFACE–MOUNT TYPES

type number	ratings			characteristics					package
	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V)	@ I_C/I_B (mA/mA)	f_T typ. (MHz)	
PNP									
BC807	45	500	250	100/600	100/1	0.7	500/50	80 1)	SOT23
BC807W	45	500	200	100/600	100/1	0.7	500/50	80 1)	SOT323
BC808	25	500	250	100/600	100/1	0.7	500/50	80 1)	SOT23
BC808W	25	500	200	100/600	100/1	0.7	500/50	80 1)	SOT323
BC856	65	100	250	125/800	2/5	0.3	10/0.5	150	SOT23
BC856W	65	100	200	125/800	2/5	0.3	10/0.5	150	SOT323
BC857	45	100	250	125/800	2/5	0.3	10/0.5	100 1)	SOT23
BC857W	45	100	200	125/800	2/5	0.3	10/0.5	100 1)	SOT323
BC858	30	100	250	125/800	2/5	0.3	10/0.5	100 1)	SOT23
BC858W	30	100	200	125/800	2/5	0.3	10/0.5	100 1)	SOT323
BC869	20	1000	1000	85/375	500/1	0.5	1000/100	60	SOT89
BCP51	45	1000	1500	40/250	150/2	0.5	500/50	50	SOT223
BCP52	60	1000	1500	40/250	150/2	0.5	500/50	50	SOT223
BCP53	80	1000	1500	40/250	150/2	0.5	500/50	50	SOT223
BCP69	25	1000	1500	85/375	500/1	0.5	1000/100	60	SOT223
BCV26 2)	30	300	250	20000/–	100/5	1.0	100/0.1	220	SOT23
BCV28 2)	30	500	1000	20000/–	100/5	1.0	100/0.1	220	SOT89
BCV46 2)	60	500	250	4000/–	10/5	1.0	100/0.1	220	SOT23
BCV48 2)	60	500	1000	10000/–	100/5	1.0	100/0.1	220	SOT89
BCV62 3)	30	100	250	100/800	2/5	0.65	100/5	150	SOT143
BCV64 3)	30	100	250	100/800	2/5	0.3	100/0.5	200	SOT143
BCV65 6)	30	100	250	75/800	2/5	0.3	10/0.5	100	SOT143
BCW29	32	100	250	120/260	2/5	0.3	10/0.5	150	SOT23
BCW30	32	100	250	215/500	2/5	0.3	10/0.5	150	SOT23
BCW61A	32	200	250	120/220	2/5	0.25	10/0.25	180	SOT23
BCW61B	32	200	250	180/310	2/5	0.25	10/0.25	180	SOT23
BCW61C	32	200	250	250/460	2/5	0.25	10/0.25	180	SOT23
BCW61D	32	200	250	380/630	2/5	0.25	10/0.25	180	SOT23
BCW69	45	100	250	120/260	2/5	0.3	10/0.5	150	SOT23
BCW70	45	100	250	120/500	2/5	0.3	10/0.5	150	SOT23
BCW89	60	100	250	120/260	2/5	0.3	10/0.5	150	SOT23
BCX17	45	500	250	100/600	100/1	0.62	500/50	100	SOT23
BCX18	25	500	250	100/600	100/1	0.62	500/50	100	SOT23
BCX51	45	1000	1000	40/250	150/2	0.5	500/50	50	SOT89
BCX52	60	1000	1000	40/160	150/2	0.5	500/50	50	SOT89
BCX53	80	1000	1000	40/160	150/2	0.5	500/50	50	SOT89
BCX71G	45	200	250	120/220	2/5	0.25	100/0.25	180	SOT23
BCX71H	45	200	250	180/310	2/5	0.25	100/0.25	180	SOT23
BCX71J	45	200	250	250/460	2/5	0.25	100/0.25	180	SOT23
BCX71K	45	200	250	380/630	2/5	0.25	100/0.25	180	SOT23
BDP32	45	3000	1500	40/–	500/12	0.3	500/50	60 1)	SOT223
BSP30	60	1000	1500	40/120	100/5	0.25	150/15	100	SOT223
BSP31	60	1000	1500	100/300	100/5	0.25	150/15	100	SOT223
BSP32	80	1000	1500	40/120	100/5	0.25	150/15	100	SOT223
BSP33	80	1000	1500	100/300	100/5	0.25	150/15	100	SOT223
BSP60 2)	45 4)	500	1500	2000/–	500/10	1.3	500/0.5	–	SOT223
BSP61 2)	60 4)	500	1500	2000/–	500/10	1.3	500/0.5	–	SOT223
BSP62 2)	80 4)	500	1500	2000/–	500/10	1.3	500/0.5	–	SOT223

continued

Small-signal transistors

GENERAL–PURPOSE L.F. BIPOLAR TRANSISTORS (CONTINUED) SURFACE–MOUNT TYPES

	ratings			characteristics					
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max. @	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V) @	I_C/I_B (mA/mA)	f_T typ. (MHz)	package
PNP									
BSR15	40	600	250	100/300	150/10	1.6	500/50	200	SOT23
BSR16	60	600	250	100/300	150/10	1.6	500/50	200	SOT23
BSR30	60	1000	1000	40/120	100/5	0.5	500/50	100	SOT89
BSR31	60	1000	1000	100/300	100/5	0.5	500/50	100	SOT89
BSR32	80	1000	1000	40/120	100/5	0.5	500/50	100	SOT89
BSR33	80	1000	1000	100/300	100/5	0.5	500/50	100	SOT89
BSS63	100	100	250	30/–	25/1	0.25	25/2.5	50	SOT23
BST60[2]	45[4]	500	1000	1000/–	150/10	1.3	500/0.5	–	SOT89
BST61[2]	60[4]	500	1000	1000/–	150/10	1.3	500/0.5	–	SOT89
BST62[2]	80[4]	500	1000	1000/–	150/10	1.3	500/0.5	–	SOT89
PMBS3906	40	200	300	100/300	10/1	0.25	10/1	250	SOT23
PMBTA55	60	500	250	50/–	10/1	0.25	100/10	50	SOT23
PMBTA56	80	500	250	50/–	10/1	0.25	100/10	50	SOT23
PMBTA63[2]	30[5]	500	250	5000/–	10/5	1.5	100/0.1	125	SOT23
PMBTA64[2]	30[5]	500	250	10000/–	10/5	1.5	100/0.1	125	SOT23
PUMT1[3]	40	100	300	120	1/6	0.2	50/5	100	SC70-6
PXTA64[2]	30[5]	300	1000	20000/–	100/5	1.5	100/0.1	125	SOT89
PXTA77[2]	60[5]	500	1000	10000/–	100/5	1.5	100/0.1	125	SOT89
PZTA56	80	500	1500	50/–	10/1	0.25	100/10	50[1]	SOT223
PZTA64[2]	30	500	1500	20000/–	100/5	1.5	100/0.1	125	SOT223
2PB709	25	100	200	160 to 460[7]	2/10	0.5	100/10	80[1]	SC59
2PB709A	45	100	200	160 to 460[7]	2/10	0.5	100/10	80[1]	SC59
2PB710	25	500	200	85 to 340[7]	150/10	0.6	300/30	150[1]	SC59
2PB710A	50	500	200	85 to 340[7]	150/10	0.6	300/30	150[1]	SC59
2PA1576	40	100	200	120 to 560[7]	1/6	0.5	50/5	100[1]	SC70

[1] minimum value
[2] darlington
[3] double transistor
[4] V_{CER}
[5] V_{CES}
[6] NPN/PNP matched pair
[7] available in three gain groups (Q, R, & S) within the specified range

LOW-NOISE TRANSISTORS OVERVIEW

NPN

leaded		surface-mount	
TO-18	TO-92	SOT23	SOT323
BC109	BC549/550	BC849/850	PMST5088/89
BCY57	2N5088	BCF32/33	BC849W/850W
		BCF81	
		PMBT5088/89	

PNP

	2N5087	BC859/860	BC859W/860W
	BC559	BCF29/30	

LOW-NOISE TRANSISTORS — LEADED TYPES

type number	ratings			characteristics						package
	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	$V_{CEsat.}$ (V)	@ I_C/I_B (mA/mA)	f_T typ. (MHz)	F typ. (dB)	
NPN										
BC109	20	100	300	240/900	2/–	–	–	300	1.2	TO–18
BC549	30	100	500	240/800	2/–	–	–	300	1.4	TO-92
BC550	45	100	500	240/800	2/–	–	–	300	1.4	TO-92
BCY57	20	100	300	200/800	2/–	–	–	100	1.5	TO-18
JC549	30	200	500	200/800	2/–	–	–	300	1.4	TO-92
JC550	45	200	500	200/800	2/–	–	–	300	1.4	TO-92
2N5088	30	50	625	350/–	1/–	–	–	50[1]	3	TO-92
2PC1815L	50	150	500	120/700	2/–	–	–	80[1]	0.2	TO-92
PNP										
BC559	30	100	500	125/800	2/–	–	–	150	1.2	TO-92
BCY70	40	200	350	100/–	10/–	–	–	450	2.0	TO-18
BCY71	45	200	350	100/–	10/–	–	–	450	0.8	TO-18
JC559	30	200	500	125/800	2/–	–	–	200	1.2	TO-92
JC560	45	200	500	125/800	2/–	–	–	200	1.0	TO-92
2N5087	50	50	625	250/–	1/–	–	–	40[1]	2	TO-92
2PA1015L	50	150	500	120/400	2/–	–	–	80[1]	0.2	TO-92

LOW-NOISE TRANSISTORS — SURFACE-MOUNT TYPES

type number	ratings			characteristics						package
	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	$V_{CEsat.}$ (V)	@ I_C/I_B (mA/mA)	f_T typ. (MHz)	F typ. (dB)	
NPN										
BC849	30	100	250	450/800	2/5	0.25	10/0.5	300	–	SOT23
BC849W	30	100	200	200/800	2/5	0.25	10/0.5	100[1]	4	SOT323
BC850	45	100	250	450/800	2/5	0.25	10/0.5	300	–	SOT23
BC850W	50	100	200	200/800	2/5	0.25	10/0.5	100[1]	4	SOT323
BCF32	32	100	250	200/450	2/5	0.25	10/0.5	300	–	SOT23
BCF33	32	100	250	420/800	2/5	0.25	10/0.5	300	–	SOT23
BCF81	45	100	250	420/800	2/5	0.25	10/0.5	300	–	SOT23
PMBT5088	30	50	250	350/–	1/5	0.5	10/1	200	–	SOT23
PMST5088	30	50	200	300/900	0.1/5	0.5	10/1	–	–	SOT323
PMST5089	25	50	200	400/1200	0.1/5	0.5	10/1	–	–	SOT323
PNP										
BC859	30	100	250	125/800	2/5	0.3	10/0.5	150	–	SOT23
BC859W	30	100	200	125/800	2/5	0.3	10/0.5	100[1]	4	SOT323
BC860	45	100	250	125/800	2/5	0.3	10/0.5	150	–	SOT23
BC860W	45	100	200	125/800	2/5	0.3	10/0.5	100[1]	4	SOT323
BCF29	32	100	250	120/260	2/5	0.3	10/0.5	150	–	SOT23
BCF30	32	100	250	215/500	2/5	0.3	10/0.5	150	–	SOT23

[1] minimum value

MEDIUM-FREQUENCY LOW-POWER TRANSISTORS OVERVIEW

NPN

leaded	surface-mount	
TO-92	SOT23	SOT323
BF494-496	BFS19	
JF494		
BF240	BF840/841	

PNP

BF324	BF824	BF824W
BF450	BF550	

MEDIUM FREQUENCY TRANSISTORS — LEADED TYPES

type number	ratings			characteristics						package
	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	C_{re} typ. (pF)	f_T typ. (MHz)	F typ. (dB)	@ f (MHz)	
NPN										
BF199	25	25	500	38/–	7	0.30	550	–	–	TO–92
BF240	40	25	250	67/220	1	0.34	380	3.5	0.2	TO–92
BF370	15	100	500	40/–	10	1.6	500[1]	–	–	TO–92
BF494	20	30	300	115 typ.	1	0.85	260	4	100	TO–92
BF495	20	30	300	67 typ.	1	0.85	200	4	100	TO–92
BF496	20	20	300	12/–	2	0.80	550[1]	2	100	TO–92
BFR54	15	500[2]	500	40/–	10	–	500[1]	–	–	TO–92
JF494	20	30	300	67/220	1	1	260	–	–	TO–92
PNP										
BF324	30	25	250	50 typ.	4/–	0.10[3]	450	3	100	TO–92
BF450	40	25	250	62/200	1/–	0.35	325	2	100	TO–92

MEDIUM FREQUENCY TRANSISTORS — SURFACE-MOUNT TYPES

type number	ratings			characteristics						package
	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	C_{re} typ. (pF)	f_T typ. (MHz)	F typ. (dB)	@ f (MHz)	
NPN										
BF840	40	25	250	–	–	0.3	380	1.5	0.2	SOT23
BF841	40	25	250	–	–	0.3	380	2.0	0.2	SOT23
BFS19	20	30	250	65/225	1/10	0.85	260	4.0	100	SOT23
BFS20	20	25	250	40/85	7/10	0.35	450	–	–	SOT23
PNP										
BF550	40	25	250	50/–	1/10	0.5	325	2.0	0.1	SOT23
BF579	20	25	250	20/–	10/10	0.46	1350	4.5	800	SOT23
BF824	30	25	250	–	–	0.1	450	3.0	100	SOT23
BF824W	30	25	200	–	–	0.1	450	3.0	100	SOT323

Notes (both tables)

[1] minimum value

[2] I_{CM}

[3] C_{br}

PRODUCT DATA: PAGES 22-27

SWITCHING TRANSISTORS OVERVIEW

NPN

leaded				surface-mount			
TO-18	TO-39	TO-92	TO-126	SOT23	SOT89	SOT223	SOT323
BSX20 2N2369		BF370 BFR54 PH2369 PN2369		BSV52 PMBT2369		PZT2369	PMST2369
		2N3904 2N4124		BSR17A PMBT3904	PXT3904	PZT3904	PMST3904
	BSX32 BSX59-61						
2N2222/A	2N2219/A	PH2222/A PN2222/A 2N4401		BSR13/14 PMBT2222/A PMBT4401	PXT2222A PXT4401	PZT2222A	PMST2222A PMST4401
	2N2297 2N3019						
DARLINGTONS							
	BSS50-52	BC875 BC877 BC879 BSR50-52	BDX42-44		BST50-52	BSP50-52	

PNP

TO-18	TO-39	TO-92	TO-126	SOT23	SOT89	SOT223	SOT323
		2N3906 2N4126		BSR18A PMBT3906	PXT3906	PZT3906	PMST3906
2N2906/A 2N2907/A	BFX30 2N2905/A	PH2907/A PN2907/A 2N4402/ 2N4403		BSR15/16 PMBT2907/A PMBT4403	PXT2907A	PZT2907A	PMST4403 PMST2907
DARLINGTONS							
	BSS62	BC876 BC878 BC880 BSR60-62	BDX45-47		BST60-62	BSP60-62	

SWITCHING TRANSISTORS

LEADED TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} @ min./max.	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ typ. (V)	f_T typ. (MHz)	t_{off} @ max. (ns)	I_C (mA)	package
NPN										
BC875	45	1000	800	1000/–	150/–	–	200	1500	500	TO–92
BC877	60	1000	800	1000/–	150/–	–	200	1500	500	TO–92
BC879	80	1000	800	1000/–	150/–	–	200	1500	500	TO–92
BCX58	32	200	450	120/630	2/5	–	125[1]	–	–	TO–92
BCY58	32	200	330	80/1000	10/–	–	280	800	10	TO–18
BCY59	45	200	330	80/1000	10/–	–	280	800	10	TO–18
BDX35	60	5000	15000	45/450	500/10	0.9	100	–	–	TO–126
BDX36	60	5000	15000	45/450	500/10	0.7	100	–	–	TO–126
BDX37	80	5000	15000	45/450	500/10	0.9	100	–	–	TO–126
BF370	15	100	500	40/–	10/–	–	500[1]	–	–	TO–92
BFR54	15	500[2]	500	40/–	10/–	–	500[1]	–	–	TO–92
BFX34	60	2000	5000	40/150	2000/–	–	70[1]	1200	5000	TO–39
BFX85	60	1000	800	70/–	150/–	–	50[1]	360	–	TO–39
BFY50	35	1000	5000	112 typ.	150/–	–	140	360	150	TO–39
BFY51	30	1000	5000	123 typ.	150/–	–	160	360	150	TO–39
BFY52	20	1000	5000	142 typ.	150/–	–	185	360	150	TO–39
BSR50[3]	45[4]	1000	800	2000/–	500/–	–	–	1500	500	TO–92
BSR51[3]	60[4]	1000	800	2000/–	500/–	–	–	1500	500	TO–92
BSR52[3]	80[4]	1000	800	2000/–	500/–	–	–	1500	500	TO–92
BSS50[3]	45[4]	1000	5000	2000/–	500/–	–	–	1000	500	TO–39
BSS51[3]	60[4]	1000	5000	2000/–	500/–	–	–	1000	500	TO–39
BSS52[3]	80[4]	1000	5000	2000/–	500/–	–	–	1000	500	TO–39
BSV64	60	2000	5000	40/–	2000/–	–	100	1200	5000	TO–39
BSW65/PH	80	1000	800	30/–	500/5	1	80[1]	–	–	TO–39
BSW66A	100	1000	5000	30/–	500/–	–	130	900	500	TO–39
BSW67A	120	1000	5000	30/–	500/–	–	130	900	500	TO–39
BSW68A	150	1000	5000	30/–	500/–	–	130	900	500	TO–39
BSX20	15	500[2]	360	40/120	10/–	–	500[1]	18	–	TO–18
BSX32	40	1000	800	30/60	10/–	–	300[1]	60	500	TO–39
BSX45	40	1000	6250	40/250	100/–	–	50[1]	850	100	TO–39
BSX46	60	1000	6250	40/250	100/–	–	50[1]	850	100	TO–39
BSX47	80	1000	6250	40/160	100/–	–	50[1]	850	100	TO–39
BSX49	40	600	1000	25/40	100/–	–	400	50	150	TO–18
BSX49/PH	40	600	1000	25/–	100/1	1	250[1]	–	–	TO–18
BSX59	45	1000	800	30/90	500/–	–	450	60	500	TO–39
BSX60	30	1000	800	30/90	500/–	–	475	70	500	TO–39
BSX61	45	1000	800	30/90	500/–	–	475	100	500	TO–39
BSX62	40	3000	875	63/160	1000/–	–	70	1500	100	TO–39
BSX63	60	3000	875	100/250	1000/–	–	70	1500	100	TO–39
BSY18	12	200	1000	40/120	10/0.35	0.28	280[1]	–	–	TO–39
BSY34	40	600	2600	25/–	10/1	0.17	250[1]	–	–	TO–39
BSY63	15	200	1000	30/120	10/1	0.4	300[1]	–	–	TO–39
BSY95A	15	100	300	50/200	10/–	–	200[1]	–	–	TO–18

continued

SWITCHING TRANSISTORS (CONTINUED)

LEADED TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} @ min./max.	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ typ. (V)	f_T typ. (MHz)	t_{off} @ max. (ns)	I_C (mA)	package
NPN										
MPS3904	40	200	625	100/300	10/–	–	300	90	10	TO–92
MPSA25[3]	40	500	500	10000/–	–	–	220	–	–	TO–92
MPSA26[3]	50	500	500	10000/–	–	–	220	–	–	TO–92
MPSA27[3]	60	500	500	10000/–	–	–	220	–	–	TO–92
MPSA42	300	500	625	40/–	30/–	–	50[1]	–	–	TO–92
MPSA43	200	500	625	40/–	30/–	–	50[1]	–	–	TO–92
PH2222	30	800	625	75/–	10/–	–	250[1]	285	150	TO–92
PH2222A	40	800	625	75/–	10/–	–	300[1]	285	150	TO–92
PH2369	15	500[2]	500	40/120	10/–	–	500[1]	18	10	TO–92
PN2222	30	600	625	100/300	150/–	–	250[1]	285	150	TO–92
PN2222A	40	600	625	100/300	150/–	–	250[1]	285	150	TO–92
PN2369	15	600	625	40/120	10/–	–	–	18	10	TO–92
PN3439	350	1000	625	30/–	2/–	–	70[1]	–	–	TO–92
PN3440	250	1000	625	40/–	20/–	–	70[1]	–	–	TO–92
PZT2369	15	500	500	40/120	10/–	–	500[1]	18	10	SOT223
2N1711	50[4]	1000[2]	800	100/300	150/–	–	70[1]	–	–	TO–39
2N1893	80	500	3000	40/120	150/–	–	50[1]	–	–	TO–39
2N2219	30	800	800	100/300	150/–	–	250[1]	285	150	TO–39
2N2219A	40	800	800	100/300	150/–	–	300[1]	285	150	TO–39
2N2222	30	800	500	100/300	150/–	–	250	285	150	TO–18
2N2222A	40	800	500	100/300	150/–	–	300	285	150	TO–18
2N2297	35	1000	800	40/120	150/–	–	60[1]	–	–	TO–39
2N2369	15	500[2]	360	40/120	10/–	–	500	18	10	TO–18
2N3019	80	1000	800	100/300	150/–	–	100	–	–	TO–39
2N3904	40	200	350	100/300	10/–	–	300	250	10	TO–92
2N4124	25	200	350	120/480	–	–	300[1]	–	–	TO–92
2N4401	40	600	625	100/300	100/–	–	250[1]	255	150	TO–92
2N5550	140	60	625	60/–	10/–	–	100	–	–	TO–92
2N5551	160	60	625	80/–	10/–	–	100	–	–	TO–92

[1] minimum value

[2] I_{CM}

[3] darlington

[4] V_{CER}

[5] V_{CES}

continued

Small-signal transistors

SWITCHING TRANSISTORS (CONTINUED)

LEADED TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} @ min./max.	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ typ. (V)	f_T typ. (MHz)	t_{off} @ max. (ns)	I_C (mA)	package
PNP										
BCX78	32	200	450	–	–	–	200[1]	–	–	TO–92
BCY70	40	200	350	100/–	10/–	–	450	500	10	TO–18
BCY71	45	200	350	100/–	10/–	–	450	–	–	TO–18
BCY78	32	200	345	80/1000	10/–	–	180	800	10	TO–18
BCY79	45	200	345	80/1000	10/–	–	180	800	10	TO–18
BFX30	65	600	600	50/200	10/–	–	–	240	–	TO–39
BSR60[2]	45[3]	1000	800	2000/–	500/–	–	–	1500	500	TO–92
BSR61[2]	60[3]	1000	800	2000/–	500/–	–	–	1500	500	TO–92
BSR62[2]	80[3]	1000	800	2000/–	500/–	–	–	1500	500	TO–92
BSS46	80	5000	5000	30/–	2000/–	–	70[1]	530[4]	500	TO–39
BSS46–10	80	5000	870	63/160	1000/1	1.4	70[1]	–	–	TO–39
BSS62[2]	80[3]	1000	5000	2000/–	500/–	–	–	1500	500	TO–39
BSS68	100	100	500	30/–	25/–	–	50[1]	–	–	TO–92
BSV12	80	1000	870	63/250	100/1	0.5	30[1]	–	–	TO–39
BSV15	40	1000	5000	40/250	100/–	–	50[1]	650	100	TO–39
BSV16	60	1000	5000	40/250	100/–	–	50[1]	650	100	TO–39
BSV17	80	1000	5000	40/250	100/–	–	50[1]	650	100	TO–39
MPS3906	40	200	625	100/300	10/–	–	300	90	10	TO–92
MPSA63[2]	30[5]	500	625	5000/–	10/–	–	125[1]	–	–	TO–92
MPSA64[2]	30[5]	500	625	10000/–	10/–	–	125[1]	–	–	TO–92
MPSA76	50	500	500	10000/–	–	–	220	–	–	TO–92
MPSA77	60	500	500	10000/–	–	–	220	–	–	TO–92
MPSA92	300	500	625	25/–	30/–	–	50[1]	–	–	TO–92
MPSA93	200	500	625	25/–	30/–	–	50[1]	–	–	TO–92
PH2907	40	600	625	100/300	150/–	–	200[1]	100	150	TO–92
PH2907A	60	600	625	100/300	150/–	–	200[1]	100	150	TO–92
PH5416	300	1000	625	30/120	50/–	–	15[1]	–	–	TO–92
PN2907	40	600	625	100/300	150/–	–	200[1]	100	150	TO–92
PN2907A	60	600	625	100/300	150/–	–	200[1]	100	150	TO–92
2N2894A/PH	12	200	360	30/150	30/0.5	0.65	800[1]	–	–	TO–18
2N2905	40	600	600	100/300	150/–	–	200	100	150	TO–39
2N2905A	60	600	600	100/300	150/–	–	200	100	150	TO–39

continued

SWITCHING TRANSISTORS (CONTINUED)

LEADED TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} @ min./max.	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ typ. (V)	f_T typ. (MHz)	t_{off} @ max. (ns)	I_C (mA)	package
PNP										
2N2906	40	600	400	40/120	150/–	–	200	100	150	TO–18
2N2906A	60	600	400	40/120	150/–	–	200	100	150	TO–18
2N2907	40	600	400	100/300	150/–	–	200	100	150	TO–18
2N2907A	60	600	400	100/300	150/–	–	200	100	150	TO–18
2N3906	40	200	350	100/300	10/–	–	250	300	10	TO–92
2N4031	80	1000	800	25(1)	500/–	–	100	400	500	TO–39
2N4033	80	1000	800	70(1)	500/–	–	150	400	500	TO–39
2N4036	90	1000	7000	20/200	150/–	–	–	700	–	TO–39
2N4402	40	600	625	50/150	150/–	–	150(1)	255	150	TO–92
2N4403	40	600	625	100/300	150/–	–	200(1)	255	150	TO–92
2N4126	25	200	350	120/480	2/–	–	250(1)	–	–	TO–92
2N5400	120	600	625	40(1)	10/–	–	100	–	–	TO–92
2N5401	150	600	625	60(1)	10/–	–	100	–	–	TO–92
2N5415	200	1000	1000	30/150	50/–	–	15	850(4)	50	TO–39
2N5416	300	1000	1000	30/120	50/–	–	15	850(4)	50	TO–39

(1) minimum value
(2) darlington
(3) V_{CER}
(4) typical value
(5) V_{CES}

SWITCHING TRANSISTORS (CONTINUED) SURFACE-MOUNT TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} @ min./max.	I_C/V_{CE} (mA/V)	$V_{CEsat.}$ @ max. (V)	I_C/I_B (mA/mA)	t_{on}/t_{off} @ max. (ns/ns)	I_C/I_B (mA/mA)	package
NPN										
BSP50$^{1)}$	45$^{2)}$	500	1500	2000/–	500/10	1.3	500/0.5	400/1500	500/0.5	SOT223
BSP51$^{1)}$	60$^{2)}$	500	1500	2000/–	500/10	1.3	500/0.5	400/1500	500/0.5	SOT223
BSP52$^{1)}$	80$^{2)}$	500	1500	2000/–	500/10	1.3	500/0.5	400/1500	500/0.5	SOT223
BSR13	30	800	250	100/300	150/10	1.6	500/50	35/285	150/–	SOT23
BSR14	40	800	250	100/300	150/10	1.0	500/50	35/285	150/–	SOT23
BSR17A	40	200	250	100/300	10/1	0.3	50/5	70/250	10/1	SOT23
BSR40	60	1000	1000	40/120	100/5	0.5	500/50	250/1000	100/5	SOT89
BSR41	60	1000	1000	100/300	100/5	0.5	500/50	250/1000	100/5	SOT89
BSR42	80	1000	1000	40/120	100/5	0.5	500/50	250/1000	100/5	SOT89
BSR43	80	1000	1000	100/300	100/5	0.5	500/50	250/1000	100/5	SOT89
BSS64	80	100	250	20/80	10/1	0.2	50/15	–/1000	15/1	SOT23
BST50$^{1)}$	45$^{2)}$	500	1000	1000/–	50/10	1.3	500/0.5	400/1500	500/0.5	SOT89
BST51$^{1)}$	60$^{2)}$	500	1000	1000/–	50/10	1.3	500/0.5	400/1500	500/0.5	SOT89
BST52$^{1)}$	80$^{2)}$	500	1000	1000/–	50/10	1.3	500/0.5	400/1500	500/0.5	SOT89
BSV52	12	100	250	40/120	10/1	1.2	50/5	12/18	10/3	SOT23
PMBT2222	30	600	250	100/300	150/10	0.4	150/15	35/285	150/15	SOT23
PMBT2222A	40	600	250	100/300	150/10	0.3	150/15	35/285	150/15	SOT23
PMBT2369	40	500	250	40/120	10/1	0.25	10/1	12/18	10/3	SOT23
PMBT3904	40	200	250	100/300	10/1	0.3	50/5	35/200	10/1	SOT23
PMBT4401	40	600	250	100/300	150/1	0.75	500/50	35/255	150/15	SOT23
PMST2222	30	600	200	100/300	150/10	0.4	150/15	35/285	150/15	SOT323
PMST2222A	40	600	200	100/300	150/10	0.3	150/15	35/285	150/15	SOT323
PMST2369	15	500	200	40/120	10/1	0.25	10/1	–	–	SOT323
PMST3904	40	200	200	100/300	10/1	0.2	10/1	70/250	10/1	SOT323
PMST4401	40	600	200	100/300	150/1	0.4	150/15	35/255	150/15	SOT323
PXT2222A	40	600	1000	100/300	150/10	0.4	150/15	10/225	150/15	SOT89
PXT3904	40	200	1000	100/300	150/10	0.2	10/1	35/200	10/1	SOT89
PXT4401	40	600	1000	100/300	150/1	0.75	500/50	35/255	150/15	SOT89
PZT2222A	40	600	1500	100/300	150/10	0.4	150/15	10/225	150/15	SOT223
PZT3904	40	200	1500	100/300	10/1	0.3	10/1	35/200	10/1	SOT223
PZTA06	80	500	1500	50/–	100/1	0.25	100/10	–	–	SOT223
PNP										
BSP60$^{1)}$	45$^{2)}$	500	1500	2000/–	500/10	1.3	500/0.5	400/1500	500/0.5	SOT223
BSP61$^{1)}$	60$^{2)}$	500	1500	2000/–	500/10	1.3	500/0.5	400/1500	500/0.5	SOT223
BSP62$^{1)}$	80$^{2)}$	500	1500	2000/–	500/10	1.3	500/0.5	400/1500	500/0.5	SOT223
BSR12	15	100	250	30/120	50/1	0.45	100/10	20/30	30/3	SOT23
BSR15	40	600	250	100/300	150/10	1.6	500/50	45/100	150/15	SOT23
BSR16	60	600	250	100/300	150/10	1.6	500/50	45/100	150/15	SOT23
BSR18A	40	200	250	100/300	10/1	0.4	50/5	70/300	10/1	SOT23
BSR30	60	1000	1000	40/120	100/5	0.5	500/50	500/650	100/5	SOT89
BSR31	60	1000	1000	100/300	100/5	0.5	500/50	500/650	100/5	SOT89
BSR32	80	1000	1000	40/120	100/5	0.5	500/50	500/650	100/5	SOT89
BSR33	80	1000	1000	100/300	100/5	0.5	500/50	500/650	100/5	SOT89
BSS63	100	100	250	30/–	25/1	0.25	25/2.5	–	–	SOT23
BST60$^{1)}$	45$^{2)}$	500	1000	1000/–	50/10	1.3	500/0.5	400/1500	500/0.5	SOT89
BST61$^{1)}$	60$^{2)}$	500	1000	1000/–	50/10	1.3	500/0.5	400/1500	500/0.5	SOT89

continued

SWITCHING TRANSISTORS (CONTINUED) SURFACE-MOUNT TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V)	@ I_C/I_B (mA/mA)	t_{on}/t_{off} max. (ns/ns)	@ I_C/I_B (mA/mA)	package
PNP										
BST62[1]	80[2]	500	1000	1000/–	50/10	1.3	500/0.5	400/1500	500/0.5	SOT89
PMBT2907	40	600	250	30/–	500/10	0.4	150/15	50/110	150/15	SOT23
PMBT2907A	60	600	250	50/–	500/10	0.4	150/15	50/110	150/15	SOT23
PMBT3906	40	200	300	100/300	10/1	0.25	10/1	35/225	10/1	SOT23
PMBT4403	40	600	250	100/300	150/2	0.75	500/50	35/255	150/15	SOT23
PMST2907	40	600	250	30/-	500/10	0.4	150/15	50/110	150/15	SOT323
PMST3906	40	200	200	100/300	10/1	0.25	10/1	70/300	10/1	SOT323
PMST4403	40	600	200	100/–	10/1	0.4	150/15	35/255	150/15	SOT23
PXT2907A	60	600	1000	100/300	150/10	0.4	150/10	50/110	150/15	SOT89
PXT3906	40	200	1000	100/300	10/1	0.25	10/1	35/225	10/1	SOT89
PXT4403	40	600	1000	100/300	150/2	0.4	150/15	35/255	150/15	SOT89
PZT2907A	60	600	1500	100/300	150/10	0.4	150/15	50/110	150/15	SOT223
PZT3906	40	200	1500	100/300	10/1	0.4	50/5	35/225	10/1	SOT223
PZT4403	60	600	1500	100/300	150/10	0.4	150/15	35/255	150/15	SOT223
PZTA55	60	500	1500	50/–	100/1	0.25	100/10	–	–	SOT223
PZTA56	80	500	1500	50/–	100/1	0.25	100/10	–	–	SOT223

[1] darlington

[2] V_{CER}

PRODUCT DATA: PAGES 29-31

HIGH-VOLTAGE TRANSISTORS OVERVIEW

NPN

leaded				surface-mount			
TO-39	TO-92	TO-126	TO-202	SOT23	SOT89	SOT223	SOT323
	BF420/422	BF469 BF471	BF869 BF871	BF820/822	BF620/622	BF720/722	BF820W/822W
	BF483/485/487 MPSA42/43	BF583/585/587		PMBTA42/43	PXTA42	PZTA42 BSP19/20	
	PN3439/3440				BST39/40		
	2N5550/5551			BSR19/A PMBT5550/5551		PZT5551	PMST5550 PMST5551

PNP

TO-39	TO-92	TO-126	TO-202	SOT23	SOT89	SOT223	SOT323
	BF421/423	BF470 BF472	BF870 BF872	BF821/823 PMBTA92/93	BF621/623 PXTA92	BF721/723 PZTA92/93	
	BF486/488 MPSA92/93	BF584/586/588					
2N5415/5416	PH5416				BST15/16	BSP15/16	
	2N5400/5401			BSR20/A PMBT5401		PZT5401	PMST5401

HIGH VOLTAGE TRANSISTORS

LEADED TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	C_{re} max. (pF)	$V_{CEsat.}$ max. (V)	@ I_C/I_B (mA/mA)	f_T typ. (MHz)	package
NPN										
BF420	300[1)]	50	830	50/–	25/–	1.6	–	–	60	TO–92
BF422	250	50	830	50/–	25/–	1.6	–	–	60	TO–92
BF457	160	100	6000	26/–	30/10	–	1	30/6	–	TO-126
BF469	250	50	1800	50/–	25/–	1.8	–	–	60	TO–126
BF471	300[1)]	50	1800	50/–	25/–	1.8	–	–	60	TO–126
BF483	250	100	830	50/–	25/–	1.4	–	–	70	TO–92
BF485	300	100	830	50/–	25/–	1.4	–	–	70	TO–92
BF487	350	100	830	50/–	25/–	1.4	–	–	70	TO–92
BF583	250	50	5000	50/–	25/20	–	–	–	–	TO-202
BF585	300	100	830	50/–	25/–	1.4	–	–	70	TO-126
BF587	350	100	830	50/–	25/–	1.4	–	–	70	TO-126
BF857	350	50	5000	50/–	25/20	–	–	–	–	TO-202
BF869	250	50	5000	50/–	25/–	2	–	–	60	TO–126
BF871	300[1)]	50	5000	50/–	25/–	2	–	–	60	TO–126
MPSA42	300	500	625	40/–	30/–	–	–	–	50	TO–92
MPSA43	200	500	625	40/–	30/–	–	–	–	50	TO–92
MPSA44	400	300	625	50/200	10/10	–	0.75	50/5	20[2)]	TO–92
MPSA45	350	300	625	50/200	10/10	–	0.75	50/5	20[2)]	TO–92
PN3439	350	1000	625	30/–	2/–	–	–	–	70	TO–92
PN3440	250	1000	625	40/–	20/–	–	–	–	70	TO–92
2N5550	140	60	625	60/–	10/–	–	–	–	100	TO–92
2N5551	160	60	625	80/–	10/–	–	–	–	100	TO–92
PNP										
BF421	300[1)]	50	830	50/–	25/–	1.6	–	–	60	TO–92
BF423	250	50	830	50/–	25/–	1.6	–	–	60	TO–92
BF470	250	50	1800	50/–	25/–	1.8	–	–	60	TO–126
BF472	300[1)]	50	1800	50/–	25/–	1.8	–	–	60	TO–126
BF486	300	100	830	50/–	25/–	1.6	–	–	70	TO–92
BF488	350	100	830	50/–	25/–	1.6	–	–	70	TO–92
BF584	250	50	5000	50/–	25/20	–	0.5	20/2	70	TO-126
BF586	300	100	830	50/–	25/–	1.6	–	–	70	TO-126
BF588	350	100	830	50/–	25/–	1.6	–	–	70	TO-126
BF870	250	50	5000	50/–	25/–	2.2	–	–	60	TO–126
BF872	300[1)]	50	5000	50/–	25/–	2.2	–	–	60	TO–126
PSA92	300	500	625	25/–	30/–	–	–	–	50	TO–92
MPSA93	200	500	625	25/–	30/–	–	–	–	50	TO–92
PH5416	300	1000	625	30/120	50/–	–	–	–	15	TO–92
2N5400	120	600	625	40/–	10/–	–	–	–	100	TO–92
2N5401	150	600	625	60/–	10/–	–	–	–	100	TO-92
2N5415	200	1000	1000	30/150	50/–	–	–	–	15	TO–39
2N5416	300	1000	1000	30/120	50/–	–	–	–	15	TO–39

1) V_{CER} 2) minimum value

continued

HIGH VOLTAGE TRANSISTORS (CONTINUED) **SURFACE-MOUNT TYPES**

type number	ratings V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	characteristics h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	C_{re} max. (pF)	$V_{CEsat.}$ max. (V)	@ I_C/I_B (mA/mA)	f_T typ. (MHz)	package
NPN										
BF620	–	50	1000	50/–	25/20	–	0.6	30/5	60	SOT89
BF622	250	50	1000	50/–	25/20	–	0.6	30/5	60	SOT89
BF720	–	50	1500	50/–	25/20	–	0.6	30/5	60	SOT223
BF722	250	50	1500	50/–	25/20	–	0.6	30/5	60	SOT223
BF820	–	50	250	50/–	25/20	–	0.6	30/5	60	SOT23
BF820W	300[1]	50	200	50/–	25/20	–	0.6	30/5	60[1]	SOT323
BF822	250	50	250	50/–	25/20	–	0.6	30/5	60	SOT23
BF822W	250	50	200	50/–	25/20	–	0.6	30/5	60[1]	SOT323
BSP19	350	1000	1500	40/–	10/20	–	1.3	50/4	70	SOT223
BSP20	250	1000	1500	40/–	10/20	–	1.3	50/4	70	SOT223
BSR19	140	600	250	60/250	10/5	–	0.25	50/5	100	SOT23
BSR19A	160	600	250	80/250	10/5	–	0.2	50/5	100	SOT23
BST39	350	1000	1000	40/160	20/10	–	0.5	50/4	70	SOT89
BST40	250	1000	1000	40/160	20/10	–	0.5	50/4	70	SOT89
PMBT5550	140	600	250	60/250	10/5	–	0.25	50/5	200	SOT23
PMBT5551	160	600	250	80/250	10/5	–	0.2	50/5	100	SOT23
PMBTA42	300	500	250	40/–	30/10	–	0.5	20/2	50	SOT23
PMBTA43	200	500	250	40/–	30/10	–	0.5	20/2	50	SOT23
PMST5550	140	600	200	60/250	10/5	–	0.25	50/5	100[1]	SOT323
PMST5551	160	600	200	80/250	10/5	–	0.2	50/5	100[1]	SOT323
PXTA42	300	500	1000	40/–	10/10	–	0.5	20/2	50	SOT89
PXTA43	200	500	1000	40/–	10/10	–	0.5	20/2	50	SOT89
PZT5551	160	60	1500	80/–	10/–	–	–	–	100	SOT223
PZTA42	300	500	1500	40/–	10/10	–	0.5	20/2	50	SOT223
PZTA44	400	300	1500	50/200	10/10	–	0.75	50/5	20[1]	SOT223
PNP										
BF621	–	50	1000	50/–	25/20	–	0.8	30/5	60	SOT89
BF623	250	50	1000	50/–	25/20	–	0.8	30/5	60	SOT89
BF721	–	50	1500	50/–	25/20	–	0.8	30/5	60	SOT223
BF723	250	50	1500	50/–	25/20	–	0.8	30/5	60	SOT223
BF821	–	50	250	50/–	25/20	–	0.8	30/5	60	SOT23
BF823	250	50	250	50/–	25/20	–	0.8	30/5	60	SOT23
BSP15	200	1000	1500	30/150	10/50	–	2.5	50/5	15	SOT223
BSP16	300	1000	1500	30/120	10/50	–	2.0	50/5	15	SOT223
BSP20	250	1000	1500	40/–	20/10	–	0.5	50/4	70[1]	SOT223
BSR20	120	600	250	40/180	10/5	–	0.5	50/5	100	SOT23
BSR20A	150	600	250	60/240	10/5	–	0.5	50/5	100	SOT23
BST15	200	1000	1000	30/150	50/10	–	2.5	50/5	15	SOT89
BST16	300	1000	1000	30/120	50/10	–	2.0	50/5	15	SOT89
PMBT5401	150	500	250	60/240	10/5	–	0.5	50/5	100	SOT23
PMBTA92	300	500	250	40/–	10/10	–	0.5	20/2	50	SOT23
PMBTA93	200	500	300	40/–	10/10	–	0.5	20/2	50	SOT23
PMST5401	150	500	200	60/240	10/5	–	0.5	50/5	100[1]	SOT323
PXTA92	300	500	1000	40/–	10/10	–	0.5	20/2	50	SOT89
PXTA93	200	500	1000	40/–	10/10	–	0.5	20/2	50	SOT89
PZT5401	150	600	1500	60/–	10/–	–	–	–	100	SOT223
PZTA45	350	300	1500	50/200	10/10	–	0.75	50/5	20[1]	SOT223

continued

HIGH VOLTAGE TRANSISTORS (CONTINUED)

SURFACE-MOUNT TYPES

type number	ratings V_{CEO} max. (V)	 I_C max. (mA)	 P_{tot} max. (mW)	characteristics h_{FE} min./max.	 @ I_C/V_{CE} (mA/V)	 C_{re} max. (pF)	 $V_{CEsat.}$ max. (V)	 @ I_C/I_B (mA/mA)	 f_T typ. (MHz)	package
PNP										
PZTA92	300	500	1500	40/–	10/10	–	1.5	100/0.1	125	SOT223
PZTA93	200	500	1500	40/–	10/10	–	1.5	100/0.1	125	SOT223

[1] minimum value

[2] V_{CER}

DIGITAL TRANSISTORS

SURFACE-MOUNT TYPES

	ratings			characteristics						
type number	V_{CEO} max. (V)	I_C max. (mA)	P_{tot} max. (mW)	h_{FE} min./max.	@ I_C/V_{CE} (mA/V)	$V_{CEsat.}$ max. (V)	@ I_C/I_B (mA/mA)	R1 (kΩ)	R2 (kΩ)	package
NPN TYPES										
PDTC114EK	50	50	250	30/–	5/5	0.3	10/0.5	10	10	SC59
PDTC114ET	50	50	250	30/–	5/5	0.3	10/0.5	10	10	SOT23
PDTC114EU	50	50	200	30/–	5/5	0.3	10/0.5	10	10	SC70
PDTC114TK	50	100	250	100/600	1/5	0.3	10/1	10	–	SC59
PDTC114TT	50	100	250	100/600	1/5	0.3	10/1	10	–	SOT23
PDTC114TU	50	100	200	100/600	1/5	0.3	10/1	10	–	SC70
PDTC124EK	50	30	250	56/–	5/5	0.3	10/0.5	22	22	SC59
PDTC124ET	50	30	250	56/–	5/5	0.3	10/0.5	22	22	SOT23
PDTC124EU	50	30	200	56/–	5/5	0.3	10/0.5	22	22	SC70
PDTC143EK	50	100	250	20/–	10/5	0.3	10/0.5	4.7	4.7	SC59
PDTC143ET	50	100	250	20/–	10/5	0.3	10/0.5	4.7	4.7	SOT23
PDTC143EU	50	100	200	20/–	10/5	0.3	10/0.5	4.7	4.7	SC70
PDTC144EK	50	30	250	68/–	5/5	0.3	10/0.5	4.7	4.7	SC59
PDTC144ET	50	30	250	68/–	5/5	0.3	10/0.5	4.7	4.7	SOT23
PDTC144EU	50	30	200	68/–	5/5	0.3	10/0.5	4.7	4.7	SC70
PDTD114ET	50	500	250	56/–	50/5	0.3	50/2.5	10	10	SOT23
PNP TYPES										
PDTA114EK	50	50	250	30/–	5/5	0.3	10/0.5	10	10	SC59
PDTA114ET	50	50	250	30/–	5/5	0.3	10/0.5	10	10	SOT23
PDTA114EU	50	50	200	30/–	5/5	0.3	10/0.5	10	10	SC70
PDTA114TK	50	100	250	100/600	1/5	0.3	10/1	10	–	SC59
PDTA114TT	50	100	250	100/600	1/5	0.3	10/1	10	–	SOT23
PDTA114TU	50	100	200	100/600	1/5	0.3	10/1	10	–	SC70
PDTA124EK	50	30	250	56/–	5/5	0.3	10/0.5	22	22	SC59
PDTA124ET	50	30	250	56/–	5/5	0.3	10/0.5	22	22	SOT23
PDTA124EU	50	30	200	56/–	5/5	0.3	10/0.5	22	22	SC70
PDTA143EK	50	100	250	20/–	10/5	0.3	10/0.5	4.7	4.7	SC59
PDTA143ET	50	100	250	20/–	10/5	0.3	10/0.5	4.7	4.7	SOT23
PDTA143EU	50	100	200	20/–	10/5	0.3	10/0.5	4.7	4.7	SC70
PDTA144EK	50	30	250	68/–	5/5	0.3	10/0.5	4.7	4.7	SC59
PDTA144ET	50	30	250	68/–	5/5	0.3	10/0.5	4.7	4.7	SOT23
PDTA144EU	50	30	200	68/–	5/5	0.3	10/0.5	4.7	4.7	SC70
PDTB114ET	50	500	250	56/–	50/5	0.3	50/2.5	10	10	SOT23

PNPN DEVICES OVERVIEW

leaded		surface-mount	
TO-72	TO-92	SOT23	SOT143
BR101 BRY39	BRY56 2N4870/PH 2N6027/PH 2N6028/PH	BRY61	BRY62

PNPN DEVICES:

PROGRAMMABLE UNIJUNCTION TRANSISTORS

	ratings				characteristics			
type number	V_{GA} max. (V)	I_A max. (mA)	I_{ARM} max. (A)	dI_A/dt max. (A/μs)	I_P max. (μA)	I_V max. (μA)	t_r max. (ns)	package
LEADED TYPES								
BRY39	70	175	2.5	20	5	25	80	TO-72
BRY56	70	175	2.5	20	5	2	80	TO-92
2N4870/PH	30	50	1.5	–	5	2 2)	–	TO-92
2N6027/PH	40	200	2.0	–	5	70 2)	–	TO-92
2N6028/PH	40	200	2.0	–	1	25 2)	–	TO-92
SURFACE-MOUNT TYPE								
BRY61	70	175	2.5	20	5 1)	50	80	SOT23
BRY62	70	175	2.5	–	–	–	–	SOT143

SILICON CONTROLLED SWITCHES

	ratings				characteristics				
type number	V_{CBO} max. (V)	I_E max. (mA)	I_{ERM} max. (A)	P_{tot} max. (mW)	V_{AK} max. (V)	I_H max. (mA)	t_{on} max. (μs)	t_q max. (μs)	package
LEADED TYPES									
BR101	50	175	2.5	275	1.4	1.0	–	–	TO-72
BRY39	70	175	2.5	275	1.4	1.0	1.5	8	TO-72

Notes (both tables):
1) at $V_S = 10$ V; $R_G = 10$ kΩ
2) I_V min.

THYRISTORS

type number	V_{RRM} max. (V)	I_{TRM} max. (A)	I_{TSM} max. (A)	V_{GT} min. (V)	I_H max. (mA)	V_{GT} max. (V)	I_{GT} max. (μA)	package
LEADED TYPES								
2N881/PH	200	0.6	6	0.8	0.8	0.8	200	TO-18
2N2329	400	1.6	16	2.0	2	2	200	TO-39
BRX44/PH	30	0.8	6	0.9	0.9	0.9	200	TO-92
BRX45/PH	60	0.8	6	0.9	0.9	0.9	200	TO-92
BRX46/PH	100	0.8	6	0.9	0.9	0.9	200	TO-92
BRX47/PH	200	0.8	6	0.9	0.9	0.9	200	TO-92
BRX48/PH	300	0.8	6	0.9	0.9	0.9	200	TO-92
BRX49/PH	400	0.8	6	0.9	0.9	0.9	200	TO-92

JUNCTION FETS FOR AMPLIFIERS OVERVIEW

PRODUCT DATA: PAGES 36-37

N/P	leaded				surface-mount		main application
channel	TO-18	TO-71	TO-72	TO-92	SOT23	SOT143	
N	–	–	–	BF245A	BF545A	–	audio/VHF amplifier
N	–	–	–	BF245B	BF545B	–	audio/VHF amplifier
N	–	–	–	BF245C	BF545C	–	audio/VHF amplifier
N	–	–	–	BF256A	BFR30	–	audio/VHF amplifier
N	–	–	–	BF256B	BFR30	–	audio/VHF amplifier
N	–	–	–	BF256C	BFR30	–	audio/VHF amplifier
N	–	–	–	BF247A	–	–	audio/VHF amplifier
N	–	–	–	BF247B	–	–	audio/VHF amplifier
N	–	–	–	BF247C	–	–	audio/VHF amplifier
N	–	–	BFW13	–	BFT46	–	audio/VHF amplifier
N	–	–	BFW12	–	BFR31	–	audio/VHF amplifier
N	–	–	BFW11	–	BFR30	–	audio/VHF amplifier
N	–	–	BFW10	–	–	–	audio/VHF amplifier
N	–	–	–	BF246A	–	–	audio/VHF amplifier
N	–	–	–	BF246B	–	–	audio/VHF amplifier
N	–	–	–	BF246C	–	–	audio/VHF amplifier
N	–	–	–	BF410A	BF510	–	RF stage radio
N	–	–	–	BF410B	BF511	–	RF stage radio
N	–	–	–	BF410C	BF512	–	RF stage radio
N	–	–	–	BF410D	BF513	–	mixer stage
N	BFU308	–	–	J308	PMBFJ308	–	VHF amplifier
N	BFU309	–	–	J309	PMBFJ309	–	VHF amplifier
N	BFU310	–	–	J310	PMBFJ310	–	VHF amplifier
N	–	–	2N4416	PN4416	PMBF4416	–	VHF amplifier
N	–	–	2N4416A	PN4416A	PMBF4416A	–	VHF amplifier
N	–	–	–	2N5484	PMBF5484	–	VHF amplifier
N	–	–	–	2N5485	PMBF5485	–	VHF amplifier
N	–	–	–	2N5486	PMBF5486	–	VHF amplifier
N	–	–	–	BF851A	BF861A	–	audio amplifier
N	–	–	–	BF851B	BF861B	–	audio amplifier
N	–	–	–	BF851C	BF861C	–	audio amplifier
N	–	–	2N4220(A)	–	–	–	VHF amp, osc/mix
N	–	–	2N4221(A)	–	–	–	VHF amp, osc/mix
N	–	–	2N4222(A)	–	–	–	VHF amp, osc/mix

Note: The horizontal lines separate groups of similar products (commonly products using the same die).
* dual transistors

Small-signal FETs

N-CHANNEL JUNCTION FETS FOR AMPLIFIERS

	rating	characteristics									
type number	$\pm V_{DS}$ max. (V)	I_{DSS} min. (mA)	I_{DSS} max. (mA)	C_{iss} typ. (pF)	C_{rss} typ. (pF)	$\lvert Y_{fs} \rvert$[1] min. (mS)	g_{os} typ. (µS)	F typ. (dB)	cut-off freq. (MHz)	package	application
LEADED TYPES											
BC264A	30	2.0	4.5	4	1.2	2.5	–	0.5	–	TO-92	audio
BC264B	30	3.5	6.5	4	1.2	3.0	–	0.5	–	TO-92	audio
BC264C	30	5	8	4	1.2	3.5	–	0.5	–	TO-92	audio
BC264D	30	7	12	4	1.2	4.0	–	0.5	–	TO-92	audio
BF245A	30	2.0	6.5	4	1.1	3.0	25	1.5	700	TO-92	DC, audio, VHF
BF245B	30	6	15	4	1.1	3.0	25	1.5	700	TO-92	DC, audio, VHF
BF245C	30	12	25	4	1.1	3.0	25	1.5	700	TO-92	DC, audio, VHF
BF246A	25	30	80	11	3.5	8	–	–	450	TO-92	audio/VHF
BF246B	25	60	140	11	3.5	8	–	–	450	TO-92	audio/VHF
BF246C	25	110	250	11	3.5	8	–	–	450	TO-92	audio/VHF
BF247A	25	30	80	11	3.5	8	–	–	450	TO-92	audio/VHF
BF247B	25	60	140	11	3.5	8	–	–	450	TO-92	audio/VHF
BF247C	25	110	250	11	3.5	8	–	–	450	TO-92	audio/VHF
BF256A	30	3.0	7	2	0.7	4.5	25	7.5	1000	TO-92	VHF, UHF
BF256B	30	6	13	2	0.7	4.5	25	7.5	1000	TO-92	VHF, UHF
BF256C	30	11	18	2	0.7	4.5	25	7.5	1000	TO-92	VHF, UHF
BF410A	20[3]	0.7	3.0	5[4]	0.3	2.5	60[4]	1.5	–	TO-92	VHF
BF410B	20[3]	2.5	7	5[4]	0.3	4.0	80[4]	1.5	–	TO-92	VHF
BF410C	20[3]	6	12	5[4]	0.3	6	100[4]	1.5	–	TO-92	VHF
BF410D	20[3]	10	18	5[4]	0.3	7	120[4]	1.5	–	TO-92	mixers
BF851A	25	2	6.5	10[4]	2.5[4]	12	200[4]	–	–	TO-92	audio
BF851B	25	6	15	10[4]	2.5[4]	16	250[4]	–	–	TO-92	audio
BF851C	25	12	25	10[4]	2.5[4]	20	300[4]	–	–	TO-92	audio
BFU308	25	12	60	5[4]	2.5[4]	10	200[4]	1.5	–	TO-18	VHF
BFU309	25	12	30	5[4]	2.5[4]	10	150[4]	1.5	–	TO-18	VHF
BFU310	25	24	60	5[4]	2.5[4]	10	200[4]	1.5	–	TO-18	VHF
BFW10	30	8	20	4	0.6	3.5	85[4]	2.5[4]	–	TO-72	broadband
BFW11	30	4	10	4	0.6	3.0	50[4]	2.5[4]	–	TO-72	broadband
BFW12	30	1.0	5	5[4]	0.8	2.0	30[4]	–	–	TO-72	[5]
BFW13	30	0.2	1.5	5[4]	0.8[4]	1.0	10[4]	–	–	TO-72	[5]
J308	25	12	60	5[4]	2.5[4]	8	200[4]	1.5	–	TO-92	VHF
J309	25	12	30	5[4]	2.5[4]	10	150[4]	1.5	–	TO-92	VHF
J310	25	24	60	5[4]	2.5[4]	10	200[4]	1.5	–	TO-92	VHF
2N4220(A)	30	0.5	3	4.5	1.2	0.75	10	2.5[4]	–	TO-72	VHF, mix/osc
2N4221(A)	30	2	6	4.5	1.2	0.75	20	2.5[4]	–	TO-72	VHF, mix/osc
2N4222(A)	30	5	15	4.5	1.2	0.75	40	2.5[4]	–	TO-72	VHF, mix/osc
PN4416	30	5	15	4[4]	0.8[4]	4.5	50[4]	–	–	TO-92	VHF
PN4416A	35	5	15	4[4]	0.8[4]	4.5	50[4]	–	–	TO-92	VHF
2N4416	30	5	15	4[4]	0.8[4]	4.5	50[4]	2.0	–	TO-72	VHF
2N4416A	35	5	15	4[4]	0.8[4]	4.5	50[4]	2.0	–	TO-72	VHF
2N5484	25	1	5	5[4]	1.0[4]	3.0	50[4]	4.0	–	TO-92	VHF
2N5485	25	4	10	5[4]	1.0[4]	3.5	60[4]	4.0	–	TO-92	VHF
2N5486	25	8	20	5[4]	1.0[4]	4.0	75[4]	4.0	–	TO-92	VHF

continued

N-CHANNEL JUNCTION FETS FOR AMPLIFIERS (CONTINUED)

	rating	characteristics									
type number	$\pm V_{DS}$ max. (V)	I_{DSS} min. (mA)	I_{DSS} max. (mA)	C_{iss} typ. (pF)	C_{rss} typ. (pF)	$\lvert Y_{fs} \rvert$[1] min. (mS)	g_{os} typ. (μS)	F typ. (dB)	cut-off freq. (MHz)	package	application
SURFACE-MOUNT TYPES											
BF510	20[3]	0.7	3	5[4]	0.3	2.5	60[4]	1.5	–	SOT23	VHF
BF511	20[3]	2.5	7	5[4]	0.3	4	80[4]	1.5	–	SOT23	VHF
BF512	20[3]	6	12	5[4]	0.3	6	100[4]	1.5	–	SOT23	VHF
BF513	20[3]	10	18	5[4]	0.3	7	120[4]	1.5	–	SOT23	mixers
BF545A	30	2.0	6.5	3	0.8	3	30	1.5	700	SOT23	DC, audio, VHF
BF545B	30	6	15	3	0.8	3	30	1.5	700	SOT23	DC, audio, VHF
BF545C	30	12	25	3	0.8	3	30	1.5	700	SOT23	DC, audio, VHF
BF556A	30	3	7	3	0.8	4.5	30	–	–	SOT23	DC, audio, VHF
BF556B	30	6	13	3	0.8	4.5	30	–	–	SOT23	DC, audio, VHF
BF556C	30	11	18	3	0.8	4.5	30	–	–	SOT23	DC, audio, VHF
BF861A	25	2	6.5	10[4]	2.5[4]	12	200[4]	–	–	SOT23	audio
BF861B	25	6	15	10[4]	2.5[4]	16	250[4]	–	–	SOT23	audio
BF861C	25	12	25	10[4]	2.5[4]	20	300[4]	–	–	SOT23	audio
BFR30	25	4	10	4[4]	1.5[4]	1	40[4]	–	–	SOT23	gen. purpose
BFR31	25	1.0	5	4[4]	1.5[4]	1.5	20[4]	–	–	SOT23	gen. purpose
BFT46	25	0.2	1.5	5[4]	1.5[4]	1	10[4]	–	–	SOT23	gen. purpose
PMBFJ308	25	12	60	5[4]	2.5[4]	8	150	1.5	–	SOT23	VHF
PMBFJ309	25	12	30	5[4]	2.5[4]	10	150	1.5	–	SOT23	VHF
PMBFJ310	25	24	60	5[4]	2.5[4]	10	150	1.5	–	SOT23	VHF
PMBF4416	30	5	15	4[4]	0.8[4]	4.5	50	–	–	SOT23	VHF
PMBF4416A	35	5	15	4[4]	0.8[4]	4.5	50	–	–	SOT23	VHF
PMBF5484	25	1.0	5	5[4]	1[4]	3	50	4	–	SOT23	UHF, VHF
PMBF5485	25	4	10	5[4]	1[4]	3.5	60	4	–	SOT23	UHF, VHF
PMBF5486	25	8	20	5[4]	1[4]	4	75	4	–	SOT23	UHF, VHF

[1] at 1 kHz
[2] at 10 kHz
[3] asymmetrical
[4] maximum value
[5] battery-powered equipment
[6] at 10 Hz
[7] at 1 MHz

Small-signal FETs

JUNCTION FETS FOR SWITCHING OVERVIEW

PRODUCT DATA: PAGES 39-40

	leaded			surface-mount		
N/P	TO-18	TO-72	TO-92	SOT23	SOT143	SOT223
N	BSV78	–	–	BSR56	–	–
N	BSV79	–	–	BSR57	–	–
N	BSV80	–	–	BSR58	–	–
N	–	–	J108	PMBFJ108	–	–
N	–	–	J109	PMBFJ109	–	–
N	–	–	J110	PMBFJ110	–	–
N	–	–	J111	PMBFJ111	–	–
N	–	–	J112	PMBFJ112	–	–
N	–	–	J113	PMBFJ113	–	–
N	2N4391	–	PN4391	PMBF4391	–	–
N	2N4392	–	PN4392	PMBF4392	–	–
N	2N4393	–	PN4393	PMBF4393	–	–
N	–	–	–	–	–	PZFJ108
N	–	–	–	–	–	PZFJ109
N	–	–	–	–	–	PZFJ110
N	2N4091	–	–	–	–	–
N	2N4092	–	–	–	–	–
N	2N4093	–	–	–	–	–
N	2N4856	–	–	–	–	–
N	2N4857	–	–	–	–	–
N	2N4858	–	–	–	–	–
N	2N4859	–	–	–	–	–
N	2N4860	–	–	–	–	–
N	2N4861	–	–	–	–	–
P	2N5116	–	–	–	–	–
P	–	–	2N5460	–	–	–
P	–	–	2N5461	–	–	–
P	–	–	2N5462	–	–	–
P	–	–	J174	PMBFJ174	–	–
P	–	–	J175	PMBFJ175	–	–
P	–	–	J176	PMBFJ176	–	–
P	–	–	J177	PMBFJ177	–	–

Note: The horizontal lines separate groups of similar products (commonly products using the same die).

N-CHANNEL JUNCTION FETS FOR SWITCHING

	ratings		characteristics									
type	$\pm V_{DS}$	I_G	I_{DSS}		$-V_{(P)GS}$		$R_{DS(on)}^{1)}$	$t_{on}^{2)}$	$t_{off}^{3)}$	C_{is}	
number	max.	max.	min.	max.	min.	max.	max.	max.	max.	max.	package
	(V)	(mA)	(mA)	(mA)	(V)	(V)	(Ω)	(ns)	(ns)	(pF)	
LEADED TYPES											
BSV78	40	50	50	–	3.75	11	25	10	10	10	TO-18
BSV79	40	50	20	–	2	7	40	18	16	10	TO-18
BSV80	40	50	10	–	1	5	60	30	32	10	TO-18
J108	25	50	80	–	3	10	8	$4^{4)}$	$6^{4)}$	15	TO-92
J109	25	50	40	–	2	6	12	$4^{4)}$	$6^{4)}$	15	TO-92
J110	25	50	10	–	0.5	4	18	$4^{4)}$	$6^{4)}$	15	TO-92
J111	40	50	20	–	3	10	30	$13^{4)}$	$35^{4)}$	28	TO-92
J112	40	50	5	–	1	5	50	$13^{4)}$	$35^{4)}$	28	TO-92
J113	40	50	2	–	0.5	3	100	$13^{4)}$	$35^{4)}$	28	TO-92
PN4391	40	50	50	150	4	10	30	15	20	16	TO-92
PN4392	40	50	25	75	2	5	60	15	35	16	TO-92
PN4393	40	50	5	30	0.5	3	100	15	50	16	TO-92
2N4091	40	10	30	–	5	10	30	25	40	16	TO-18
2N4092	40	10	15	–	2	7	50	35	60	16	TO-18
2N4093	40	10	8	–	1	5	80	60	80	16	TO-18
2N4391	40	50	50	150	4	10	30	15	20	14	TO-18
2N4392	40	50	25	75	2	5	60	15	35	14	TO-18
2N4393	40	50	5	30	0.5	3	100	15	50	14	TO-18
2N4856	40	50	50	–	4	10	25	9	25	18	TO-18
2N4857	40	50	20	100	2	6	40	10	50	18	TO-18
2N4858	40	50	8	80	0.8	4	60	20	100	18	TO-18
2N4859	30	50	50	–	4	10	25	9	25	18	TO-18
2N4860	30	50	20	100	2	6	40	10	50	18	TO-18
2N4861	30	50	8	80	0.8	4	60	20	100	18	TO-18
SURFACE-MOUNT TYPES											
BSR56	40	50	50	–	4	10	25	9	25	–	SOT23
BSR57	40	50	20	100	2	6	40	10	50	–	SOT23
BSR58	40	50	8	80	0.8	4	60	20	100	–	SOT23
PMBF4391	40	50	50	150	4	10	30	15	20	14	SOT23
PMBF4392	40	50	25	75	2	5	60	15	35	14	SOT23
PMBF4393	40	50	5	30	0.5	3	100	15	50	14	SOT23
PMBFJ108	25	50	80	–	3	10	8	$4^{4)}$	$6^{4)}$	85	SOT23
PMBFJ109	25	50	40	–	2	6	12	$4^{4)}$	$6^{4)}$	85	SOT23
PMBFJ110	25	50	10	–	0.5	4	18	$4^{4)}$	$6^{4)}$	85	SOT23
PMBFJ111	40	50	20	–	3	10	30	$13^{4)}$	$35^{4)}$	$28^{4)}$	SOT23
PMBFJ112	40	50	5	–	1	5	50	$13^{4)}$	$35^{4)}$	$28^{4)}$	SOT23
PMBFJ113	40	50	2	–	0.5	3	100	$13^{4)}$	$35^{4)}$	$28^{4)}$	SOT23
PZFJ108	25	50	80	–	3	10	8	$4^{4)}$	$6^{4)}$	85	SOT223
PZFJ109	25	50	40	–	2	6	12	$4^{4)}$	$6^{4)}$	85	SOT223
PZFJ110	25	50	10	–	0.5	4	18	$4^{4)}$	$6^{4)}$	85	SOT223

1) at $I_D = 0$; $V_{GS} = 0$ 2) $t_{on} = t_{delay} + t_{rise}$ 3) $t_{off} = t_{delay} + t_{fall}$ 4) typical value

P-CHANNEL JUNCTION FETS FOR SWITCHING

	ratings		characteristics								
type number	$\pm V_{DS}$ max. (V)	$-I_G$ max. (mA)	$-I_{DSS}$ min. (mA)	$-I_{DSS}$ max. (mA)	$-V_{(P)GS}$ min. (V)	$-V_{(P)GS}$ max. (V)	$R_{DS(on)}$ 1) max. (Ω)	t_{on} 2) typ. (ns)	t_{off} 3) typ. (ns)	C_{is} typ. (pF)	package
LEADED TYPES											
J174	30	50	20	135	5	10	85	7	15	30	TO-92
J175	30	50	7	70	3	6	125	15	30	30	TO-92
J176	30	50	2	35	1	4	250	35	35	30	TO-92
J177	30	50	1.5	20	0.8	2.25	300	45	45	30	TO-92
2N5116	30	50	5	25	1	4	150	60 4)	80 4)	27 4)	TO-18
2N5460	40	10	1	5	0.75	6	–	–	–	7 4)	TO-92
2N5461	40	10	2	9	1	7.5	–	–	–	7 4)	TO-92
2N5462	40	10	4	16	1.8	9	–	–	–	7 4)	TO-92
SURFACE-MOUNT TYPES											
PMBFJ174	30	50	20	135	5	10	85	7	15	30	SOT23
PMBFJ175	30	50	7	70	3	6	125	15	30	30	SOT23
PMBFJ176	30	50	2	35	1	4	250	35	35	30	SOT23
PMBFJ177	30	50	1.5	20	0.8	2.25	300	45	45	30	SOT23

1) at $I_D = 0$; $V_{GS} = 0$
2) $t_{on} = t_{delay} + t_{rise}$
3) $t_{off} = t_{delay} + t_{fall}$
4) maximum value

N-CHANNEL SINGLE-GATE MOSFETS

		ratings		characteristics									
type number	mode	V_{DS} max. (V)	I_D max. (mA)	I_{DSS} min. (mA)	$-V_{(P)GS}$[2] min. (V)	max. (V)	$R_{DS(on)}$ max. (Ω)	@ I_D/V_{GS} (mA/V)	t_{on}[3] typ. (ns)	t_{off}[4] typ. (ns)	C_{is} typ. (pF)	C_{rs} typ. (pF)	package
LEADED TYPES													
BFR29	depl.	15	20	10	–	4	–	–	–	–	5[5]	0.7[5]	TO-72
BSD12[1]	depl.	20	50	–	–	2	30	1/10	1	5	2.3	0.6	TO-72
BSD212	enh.	10	50	–	0.1	2	45	1/10	1	5	2.3	0.6	TO-72
BSD213[1]	enh.	10	50	–	0.1	2	45	1/10	1	5	2.3	0.6	TO-72
BSD214	enh.	20	50	–	0.1	2	45	1/10	1	5	2.3	0.6	TO-72
BSD215[1]	enh.	20	50	–	0.1	2	45	1/10	1	5	2.3	0.6	TO-72
BSV81	depl.	30	25	14	–	4	50	1/5	–	–	–	0.5[5]	TO-72
SURFACE-MOUNT TYPES													
BSD22[1]	depl.	20	50	–	–	2	30	1/10	1	5	1.5	0.6	SOT143
BSS83[1]	enh.	10	50	–	0.1	2	45	0.1/10	1	5	1.5	0.6	SOT143

[1] gate protected
[2] $V_{(GS)th}$ for enhancement types
[3] $t_{on} = t_{delay} + t_{rise}$
[4] $t_{off} = t_{delay} + t_{fall}$
[5] maximum value

DUAL-GATE N-CHANNEL MOSFETS

See **Tuner transistors & diodes** Section

Small-signal FETs

VERTICAL D-MOSFETS OVERVIEW

PRODUCT DATA: PAGES 43-45

N/P	leaded		surface-mount			main
channel	TO-92	other	SOT23	SOT89	SOT223	application
N	BST70A	–	–	BST80	BSP108	switching, EDP
N	BST72A	–	BST82	–	BSP110	switching, EDP
N	BST74A	–	–	BST84	BSP120	telephony, EDP
N	BST76A	–	–	BST86	–	telephony
N	BS170	–	PMBF170	–	BSP106	telephony, EDP
N	BS107	–	PMBF107	–	BSP107	telephony
N	2N7000	–	2N7002	–	BSP106	switching
N	BSS88	– –	–	–	–	switching
N	–	–	–	–	BSP121	telephony
N	BSS89	BSS91[1]	–	BSS87	BSP121	telephony
N	BSN254(A)	–	–	–	BSP126, BSP89	telephony
N	–	BST78[2]	–	–	BSP145	switching
N	BSD254(A,AR)	–	–	–	BSP122, BSP124	switching, EDP
N	BSN304(A)	–	–	–	BSP130	telephony
N	BSN10(A)	–	BSN20	–	–	telephony
N	–	–	–	–	BSS123, BSS131	telephony
N	–	–	–	–	BSS138	telephony
P	BST100	–	–	BST120	BSP206	EDP
P	BST110	–	–	BST122	BSP205	EDP
P	BS250	–	–	–	BSP205	telephony
P	BSS110	–	–	–	–	switching
P	BSS92	–	–	BSS192	BSP220	telephony
P	BS208	–	–	–	BSP220	telephony
P	BSP204(A)	–	–	–	BSP220	telephony
P	BSP254(A)	–	–	–	BSP225	switching, telephony
P	BSP304(A)	–	–	–	–	switching

Notes:

The horizontal lines separate groups of similar products (commonly products using the same die).

(A) and (AR) denote pinning variants

[1] TO-18

[2] TO-126

N-CHANNEL VERTICAL D-MOSFETS

type number	ratings V_{DS} max. (V)	ratings I_D max. (mA)	ratings P_{tot}[1] max. (mW)	characteristics $V_{GS(th)}$ min. (V)	$V_{GS(th)}$ max. (V)	$R_{DS(on)}$ max. (Ω)	at I_D/V_{GS} (mA/V)	t_{on}[2] typ. (ns)	t_{off}[3] typ. (ns)	$\lvert Y_{fs} \rvert$ typ. (mS)	C_{is} typ. (pF)	C_{rs} typ. (pF)	package
LEADED TYPES													
BS107	200	120	500[4]	0.8	2.8	28	20/2.6	4	15	250	70	5	TO-92
BS107A	200	250	600[4]	1.0	3.0	6	100/10	5	15	350	45	3.5	TO-92
BS108	200	230	1000	0.4	1.8	8	100/2.8	5	20	400	65	5	TO-92
BS170	60	500	830	0.8	3.0	5	200/10	4	4	200	25	6	TO-92
BSD254(A) & (AR)	250	200	850	0.6	1.4	20	20/0	10[6]	30[6]	200[7]	90[6]	15[6]	TO-92
BSN10(A)	50	175	830	0.4	2.0	15	100/10	5	10	60	7	2	TO-92
BSN204(A)	200	250	1000	0.4	1.8	8	100/2.8	5	20	400	65	5	TO-92
BSN205(A)	200	300	1000	0.8	2.8	6	400/10	5	20	350	45	3.5	TO-92
BSN254(A)	250	300	1000	0.8	2.0	6.5	300/10	5	15	400	65	5	TO-92
BSN274(A)	270	250	1000	0.8	2.0	8	250/10	5	20	400	65	5	TO-92
BSN304(A)	300	250	1000	0.8	2.0	8	250/10	10[6]	30[6]	380	57	15	TO-92
BSS89	200	300	1000	0.8	2.0	6	400/10	5	15	350	45	3.5	TO-92
BSS91	200	300	1000	0.8	2.0	6	400/10	5	15	353	45	3.5	TO-18
BSS100	100	250	830	0.8	2.8	6	120/10	4	10	140	24	4	TO-92
BST70A	80	500	1000	1.5	3.5	4	500/10	10[6]	15[6]	300	45	8	TO-92
BST72A	80	300	830	1.5	3.5	10	150/5	4	4	150	15	3	TO-92
BST74A	200	250	1000	0.8	2.8	12	250/10	4	15	250	70	5	TO-92
BST76A	180	300	1000	0.7	2.4	10	15/3	10[6]	15[6]	250	50	6	TO-92
BST78	450	750	15000[5]	2.0	4.0	14	100/10	10[6]	100[6]	400	75	3	TO-126
BST124	250	450	6000	1.4	0.6	12	250/5	10[6]	30[6]	200[7]	90[7]	15[6]	TO-126
VN2406L	240	210	1000	0.8	2.0	10	100/2.5	10	30	400	65	5	TO-92
VN2410L	240	150	1000	0.8	2.0	10	500/10	5	20	400	65	5	TO-92
2N7000	60	280	830	0.8	3.0	5	500/10	4	4	200	25	6	TO-92
SURFACE-MOUNT TYPES													
BSN20	50	100	300[8]	0.4	1.8	15	100/10	5	10	60	7	2	SOT23
BSP89	240	350	1500	0.8	2.0	6	340/10	10[6]	30[6]	350	65	20	SOT223
BSP106	60	425	1500	0.8	3.0	4	200/10	2	10	200	25	6	SOT223
BSP107	200	200	1500	0.8	2.4	28	20/2.6	2	5	180	50	4	SOT223
BSP108	80	500	1500	1.5	3.5	3	500/10	4	10	300	45	8	SOT223
BSP110	80	325	1500	0.8	2.8	7	200/10	2	5	150	15	3	SOT223
BSP120	200	250	1500	0.8	2.8	12	250/10	3	15	250	45	5	SOT223
BSP121	240	300	1000	0.8	2.0	6	400/10	80	145	180	110	5	SOT223
BSP122	200	650	1500	1.0	3.0	2	1500/10	35[6]	50[6]	800	120	9	SOT223
BSP124[9]	250	250	1500	0.6	1.4	12	250/5	10[6]	30[6]	200[7]	90[7]	15[6]	SOT223
BSP126	250	350	1500	0.8	2.0	6.5	300/10	5	20	400	65	5	SOT223
BSP127	270	350	1500	0.8	2.0	8	250/10	5	20	400	65	5	SOT223
BSP128	200	350	1500	0.4	1.8	8	100/2.8	5	20	400	65	5	SOT223
BSP130[9]	300	300	1500	0.8	2.0	8	250/10	10[6]	30[6]	380	57	2.6	SOT223
BSP145	450	750	1500	2.0	4.0	14	500/10	10[6]	100[6]	400	100	3	SOT223
BSP152	200	550	1500	1.5	3.5	2.5	750/10	15[6]	30[6]	400[7]	100	8	SOT223
BSS87	240	300	1000	0.8	2.0	6	400/10	10	25	350	45	3.5	SOT89
BSS123	100	150	250	0.8	2.8	6	120/10	4	10	140	24	4	SOT23
BSS131	240	100	360	0.8	2.8	16	100/10	20	40	100	20	2.5	SOT23
BSS138	50	200	360	0.5	1.5	3.5	200/5	16	40	200	40	5	SOT23
BST80	80	500	1000	1.5	3.5	4	500/10	10[6]	15[6]	300	45	8	SOT89
BST82	80	175	300[8]	1.5	3.5	10	150/5	4	4	150	15	3	SOT23
BST84	200	250	1000	0.8	2.8	12	250/10	4	15	250	70	5	SOT89

continued

N-CHANNEL VERTICAL D-MOSFETS (CONTINUED)

	ratings			characteristics									
type number	V_{DS} max. (V)	I_D max. (mA)	P_{tot}[1] max. (mW)	$V_{GS(th)}$ min. (V)	$V_{GS(th)}$ max. (V)	$R_{DS(on)}$ max. (Ω)	at I_D/V_{GS} (mA/V)	t_{on}[2] typ. (ns)	t_{off}[3] typ. (ns)	$\lvert Y_{fs} \rvert$ typ. (mS)	C_{is} typ. (pF)	C_{rs} typ. (pF)	package
SURFACE-MOUNT TYPES CONTINUED													
BST86	180	300	1000	0.7	2.7	10	15/3	10[6]	15[6]	250	50	6	SOT89
PMBF107	200	100	250	0.8	2.4	17	250/10	2	5	180	50	4	SOT23
PMBF170	60	500	300[8]	0.8	3.0	5	200/10	4	4	200	25	6	SOT23
2N7002	60	180	300[8]	0.8	3.0	5	500/10	10	15	200	25	6	SOT23

[1] T_{amb} = 25°C
[2] $t_{on} = t_{delay} + t_{rise}$
[3] $t_{off} = t_{delay} + t_{fall}$
[4] T_{case} = 25°C
[5] T_{amb} = 75°C
[6] maximum value
[7] minimum value
[8] mounted on ceramic substrate measuring 10 mm × 8 mm × 0.7 mm
[9] depletion mode

P-CHANNEL VERTICAL D-MOSFETS

	ratings			characteristics									
type number	$-V_{DS}$ max. (V)	$-I_D$ max. (mA)	P_{tot} 1) max. (mW)	$-V_{GS(th)}$ min. (V)	max. (V)	$R_{DS(on)}$ max. (Ω)	at $-I_D/-V_{GS}$ (mA/V)	t_{on} 2) typ. (ns)	t_{off} 3) typ. (ns)	$\lvert Y_{fs} \rvert$ typ. (mS)	C_{is} typ. (pF)	C_{rs} typ. (pF)	package
LEADED TYPES													
BS208	200	200	830	0.8	2.8	14	200/10	5	20	200	55	5	TO-92
BS250	45	250	830	1.0	3.5	14	200/10	4	10	125	30	5	TO-92
BSP204(A)	200	250	1000	0.8	2.8	15	200/10	5	20	200	65	6	TO-92
BSP254(A)	250	200	1000	0.8	2.8	15	200/10	5	20	200	65	6	TO-92
BSP304(A)	300	170	1000	0.8	2.8	17	170/10	10	30	100 4)	90 5)	15 5)	TO-92
BSS88	230	250	1000	0.4	1.2	8	150/5	5	20	200	50	5	TO-92
BSS92	200	150	1000	0.8	2.8	20	100/10	20	50	100	170	6	TO-92
BSS110	50	170	850	0.8	2	10	170/10	3	7	50 4)	25	3.5	TO-92
BST100	60	300	1000	1.5	3.5	6	200/10	4	20	200	55	8	TO-92
BST110	50	250	830	1.5	3.5	10	200/10	4	10	125	30	5	TO-92
SURFACE-MOUNT TYPES													
BSP92	200	180	1500	0.8	2.0	20	180/10	5	20	200	65	6	SOT223
BSP205	60	275	1500	1.5	3.5	10	200/10	3	10	125	30	5	SOT223
BSP206	60	350	1500	1.5	3.5	6.0	200/10	4	15	200	55	8	SOT223
BSP220	240	150	1000	0.8	2.8	20	100/10	20	50	100	170	6	SOT223
BSP225	250	225	1500	0.8	2.8	15	200/10	5	20	200	65	6	SOT223
BSP230	300	210	1500	0.8	2.8	17	170/10	10	30	100 4)	90 5)	15 5)	SOT223
BSS84	50	130	360	0.8	2.0	10	1/50	20	43	70	40	6	SOT23
BSS192	200	150	1000	0.8	2.8	20	100/10	20	50	100	170	6	SOT89
BST120	60	300	1000	1.5	3.5	6.0	200/10	4	20	200	55	8	SOT89
BST122	50	250	1000	1.5	3.5	10	200/10	4	10	125	30	5	SOT89

1) $T_{amb} = 25°C$
2) $t_{on} = t_{delay} + t_{rise}$
3) $t_{off} = t_{delay} + t_{fall}$
4) minimum
5) maximum

LOW OHMIC VERTICAL D-MOSFETS

SURFACE-MOUNT

	ratings			characteristics					diode characteristics			
type number	V_{DS} max. (V)	I_D max. (A)	P_{tot}[1] max. (W)	$V_{GS(th)}$ min. (V)	$V_{GS(th)}$ max. (V)	$R_{DS(on)}$ max. (Ω)	at I_D/V_{GS} (mA/V)	I_{DM} max. (A)	V_{SD} max. (V)	at I_S (A)	I_{SM}[2] max. (A)	package
N-CHANNEL												
BSP100	30	3	1.65	1.0	2.8	0.1	2.0/10	14	1.2	1.25	8	SOT223
PHN103	30	8.5	4	1.0	2.8	0.03	–	35	1.0	1.25	20	SO8
PHN110	30								1.2	1.25	14	SO8
PHN105[3]	20	4.8	2	1.0	2.8	0.05	–	20	1.0	1.25	8	SO8
PHN210 (dual)	30	3.5	2	1.0	2.8	0.1	2.2/10	14	1.2	1.25	6	SO8
P-CHANNEL												
BSP250	30	−3	1.65	1.0	2.8	0.25	−2.0/−10	10	−1.6	1.25	−5	SOT223
PHP109[3]	30	−5	4	1.0	2.8	0.09	–	20	−1.3	1.25	−12	SO8
PHP112[3]	20	−4.5	4	1.0	2.8	0.12	–	18	−1.3	1.25	−12	SO8
PHP125	30	−2.5	2.8	1.0	2.8	0.25	−1.0/−10	10	−1.6	1.25	−8	SO8
PHP210[3]	20	−3.4	2	1.0	2.8	0.1	–	14	−1.3	1.25	−6	SO8
PHP225 (dual)	30	−2.3	2	1.0	2.8	0.25	−1.0/−10	10	−1.6	1.25	−5	SO8
COMPLEMENTARY PAIR												
PHC2250[3]												
N-channel	250	3.5	2	0.8	2	7	–	1.4	–	–	–	SO8
P-channel	250	−2.5	2	0.8	2.8	15	–	1.0	–	–	–	SO8
PHC2300[3]											–	SO8
N-channel	300	3	2	0.8	2	7	–	1.2	–	–		
P-channel	300	−2	2	1.7	2.55	17	–	0.8	–	–	–	SO8
PHC21025												
N-channel	30	3.5	2	1.0	2.8	0.1	1.0/10	14	1.2	1.25	6	SO8
P-channel	30	−2.3	2	1.0	2.8	0.25	−1.0/−10	10	−1.6	1.25	−5	SO8

---

[1] at a solder point temperature of 80 °C

[2] pulse width and duty cycle limited by max. junction temperature

[3] in development

NPN TUNER TRANSISTORS

type number	ratings			characteristics[1]					package
	V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (MHz)	F (dB)	@ f (MHz)	G_{UM} (dB)	@ f (MHz)	
SURFACE-MOUNT TYPES									
BF547	20	50	300	1200	4.5	100	20	100	SOT23
BF547W	20	50	300	1200	4.5	100	20	100	SOT323
BF747	20	50	150	1200	4.5	100	20	100	SOT23
BFG67	10	50	300	8000	1.3	1000	17	1000	SOT143
BFR92A	15	25	300	5000	2.1	1000	14	1000	SOT23
BFR93A	12	35	300	6000	1.9	1000	13	1000	SOT23
BFS17	15	25	300	1000	4.5	500	–	–	SOT23
BFS17A	15	25	300	2800	2.5	800	13.5	800	SOT23

listed above is a selection of popular types for TV tuners;
for a complete overview of RF wideband transistors, see Philips Semiconductors Data Handbook SC14.

DUAL-GATE N-CHANNEL MOSFETS

type number	ratings		characteristics							package	remarks
	V_{DS} max. (V)	I_D max. (mA)	I_{DSS} min. (mA)	I_{DSS} max. (mA)	$-V_{(P)G1-S}$ max. (V)	$\lvert y_{fs} \rvert$ min. (mS)	C_{is} typ. (pF)	C_{os} typ. (pF)	F typ. (dB)		
SURFACE-MOUNT TYPES											
BF901[2]	12	30	–	–	−0.7	25	2.4	1.4	1.7	SOT143	VHF/UHF
BF901R[2]	12	30	–	–	−0.7	25	2.4	1.4	1.7	SOT143R	VHF/UHF
BF904[2][3]	7	30	–	–	−1	22	2.2	1.3	2.0	SOT143	VHF/UHF
BF904R[2][3]	7	30	–	–	−1	22	2.2	1.3	2.0	SOT143	VHF/UHF
BF904WR[2][3]	7	30	–	–	−1	22	2.2	1.3	2.0	SOT343R	VHF/UHF
BF908	12	40	3	27	2	36	3.1	1.7	1.5	SOT143	VHF/UHF
BF908R	12	40	3	27	2	36	3.1	1.7	1.5	SOT143R	VHF/UHF
BF908WR	12	40	3	27	2	36	3.1	1.7	1.5	SOT343R	VHF/UHF
BF909	7	40	–	–	−1	36	3.6	2.3	2.0	SOT143	VHF/UHF
BF909R	7	40	–	–	−1	36	3.6	2.3	2.0	SOT143R	VHF/UHF
BF909WR[2]	7	40	–	–	−1	36	3.6	2.3	2.0	SOT343R	VHF/UHF
BF989	20	20	2	20	2.7	9.5	1.8	0.9	2.8	SOT143	UHF
BF990A	18	30	–	–	1.3	18	2.6	1.2	2.0	SOT143	UHF
BF990AR	18	30	–	–	1.3	18	2.6	1.2	2.0	SOT143R	UHF
BF991	20	20	4	25	2.5	10	2.1	1.1	0.7	SOT143	VHF
BF992	20	40	–	–	1.3	20	4.0	2.0	1.2	SOT143	VHF
BF992R	20	40	–	–	1.3	20	4.0	2.0	1.2	SOT143R	VHF
BF994S	20	30	4	20	2.5	15	2.5	1.0	1.0	SOT143	VHF
BF996S	20	30	4	20	2.5	15	2.3	0.8	1.8	SOT143	UHF
BF997	20	30	2	20	2.5	15	2.5	1.0	1.0	SOT143	VHF
BF998	12	30	2	18	2.5	24[4]	2.1	1.05	1.0	SOT143	VHF/UHF
BF998R	12	30	2	18	2.5	24[4]	2.1	1.05	1.0	SOT143R	VHF/UHF
BF998WR	12	30	2	18	2.5	24[4]	2.1	1.05	1.0	SOT343R	VHF/UHF
BF1100	14	30	–	–	−1	22	2.2	1.1	2.0	SOT143	VHF/UHF
BF1100R	14	30	–	–	−1	22	2.2	1.1	2.0	SOT143R	VHF/UHF
BF1100WR	14	30	–	–	−1	22	2.2	1.1	2.0	SOT343R	VHF/UHF

---

[1] at 1 kHz

[2] enhancement types

[3] with internal biasing circuit; for 5 V applications

[4] typical value

Tuner transistors & diodes

VARIABLE-CAPACITANCE DIODES

type number	C_d (pF)	@ V_R (V)	tuning range: C_d ratio	over voltage range V_1 (V)	to V_2 (V)	r_s max. (Ω)	matched sets $\Delta \frac{C_{max}}{C_{min}} < 3\%$	package
Automatic frequency control								
BB119	15.3-19.0	10	>1.3	4	10	1.5	no	DO-35
BB417	2.2-2.4	15	2-5	4	15	1.2	no	DO-34
AM radio tuning								
BB112	17-29	8.5	>18	1	8.5	1.5	yes	SOD69
BB130	12-21	28	>23	1	28	2.0	yes	SOD69
BB212[1)]	<22	8	>22.5	0.5	8	2.5	no	TO-92
FM radio tuning								
BB204B[1)]	14.0 typ.	30	2.5-2.8	3	30	0.4	no	TO-92
BB804[1)]	42-47.5	8	1.65-1.75	2	8	0.25 typ.	no	SOT23
VHF tuning								
BB132	2.3-2.75	28	24-30	0.5	28	2.0	yes <1%	SOD323
BB133	2.2-2.6	28	14-21	0.5	28	0.9	yes <0.7%	SOD323
BB148	2.4-2.75	28	>14.5	1	28	0.9	yes	SOD323
BB150	2.2-2.6	28	14-21	0.5	28	0.9	no	SOD323
BB158	2.4-2.75	28	>14.5	1	28	0.9	no	SOD323
BB619	2.4-2.9	28	>12.5	1	28	0.7 typ.	yes	SOD123
BB620	2.9-3.4	28	19.5-25	1	28	1.3 typ.	yes	SOD123
BB809	4.0-5.0	28	8-10	1	28	0.6	yes	DO-34
BB901	<1.055	28	>12	0.5	28	3.0	no	SOT23
BB909A	2.6-3.0	28	12-15	1	28	0.9	yes	DO-34
BB909B	2.8-3.2	28	12-15	1	28	0.9	yes	DO-34
BB910	2.3-2.7	28	>14	0.5	28	1.0	yes	DO-34
BB911/A	2.4-2.9	28	23.3-28.4	0.5	28	2.0	yes	DO-34
BBY40	4.3-6.0	28	5-6.5	3	25	0.7	no	SOT23
BBY42	2.4-3.0	28	12-16	1	28	1.0	no	SOT23
UHF tuning								
BB134	1.7-2.1	28	8.9-12	0.5	28	0.75	yes <0.5%	SOD323
BB135	1.7-2.1	28	8.9-12	0.5	28	0.75	no	SOD323
BB149	1.9-2.25	28	8.2-10	1	28	0.75	yes	SOD323
BB159	1.9-2.25	28	8.2-10	1	28	0.75	no	SOD323
BB215	1.8-2.2	28	>7.6	1	28	0.63 typ.	yes	SOD80
BB405B	1.8-2.2	28	>7.6	1	28	0.75	yes	DO-34
BB515	1.85-2.25	28	8-9.6	1	28	0.5 typ.	yes	SOD123
BBY31	1.6-2.0	28	8.3 typ.	1	28	1.2	no	SOT23
BBY39[2)]	1.6-2.0	28	8.3 typ.	1	28	1.2	no	SOT23
BBY62[1)]	1.6-2.0	28	8.3 typ.	1	28	1.2	no	SOT143
SHF/SAT-TV tuning								
BB811	0.85-1.2	28	7.8-9.5	1	28	1.45	yes	SOD123
Coupling								
BB131	0.7-1.055	28	12-16	0.5	28	3.0	no	SOD323
BB901	<1.055	28	>12	–	28	3.0	no	SOT23

[1)] double diode

[2)] common-cathode double diode

SCHOTTKY-BARRIER DIODES

AM BAND-SWITCHING DIODES

type number	r_D max (Ω)	@ I_F (mA)	and f (MHz)	C_d max (pF)	@ V_R (V)	and f (MHz)	V_R max (V)	I_F max (mA)	package
BA423A	1.2	10	1	2.5	3	1	20	50	DO-34
BA423AL	1.2	10	1	2.5	3	1	20	50	SOD80

RF BAND-SWITCHING DIODES

type number	r_D max (Ω)	@ I_F (mA)	and f (MHz)	C_d max (pF)	@ V_R (V)	and f (MHz)	V_R max (V)	I_F max (mA)	package
VHF applications									
BA482	0.7	3	200	1.2	3	100	35	100	DO-34
BA483	1.2	3	200	1.0	3	100	35	100	DO-34
BA484	1.2	3	200	1.6	3	100	35	100	DO-34
BA582	0.7	3	200	1.1	3	100	35	100	SOD123
BA682	0.7	3	200	1.25	3	1	35	100	SOD80
BA683	1.2	3	200	1.2	3	1	35	100	SOD80
BA792	0.7	3	200	1.1	3	100	35	100	SOD110
BAT18	0.7	5	200	1.0	20	1	35	100	SOT23

UHF MIXING DIODES

type number	V_F max (mV)	@ I_F (mA)	r_s max (Ω)	@ I_F (mA)	and f (kHz)	C_d (pF)	@ V_R (V)	V_R max (V)	I_F max (mA)	package
BA481	450	1	13	5	1	1.1	0	4	30	DO-34

Small-signal diodes

HIGH-SPEED SWITCHING AND GENERAL-PURPOSE DIODES OVERVIEW

family	V_R max. (V)	I_F max. (mA)	leaded		surface-mount					
			DO-35	DO-34	SC59/ SOD123	SOD80C	SOD110	SOT23	SOT143	SOT323/ SC70
SINGLE DIODES										
BAW62/	25	200	–	–	–	–	–	–	–	–
BAS16	30	100	BA317	–	–	–	–	–	–	–
	50	100	BA318	BAS15	–	–	–	PMBD6050	–	–
	75	75	1N914	–	–	–	–	PMBD914	–	–
	75	200	1N4148	1N4531	–	PMLL4148	–	–	–	–
	75	200	BAW62	–	–	–	–	BAS16	BAS28 1)	–
	75	250	–	–	BAS616 2)	–	BAS216	–	–	BAS16W
	80	260	–	–	1PS193	–	–	–	–	–
BAV21	100	250	BAV19	–	–	BAV101	–	BAS19	–	–
	150	250	BAV20	–	–	BAV102	–	BAS20	–	–
	200	250	BAV21	–	–	BAV103	–	BAS21	BAV23 1)	–
BAV10	50	300	1N4150	–	–	PMLL4150	–	–	–	–
	60	300	BAV10	–	–	BAV105	–	–	BAS56 1)	–
BAX12	20	500	BAX14	–	–	–	–	–	–	–
	75	500	BAX18	–	–	–	–	–	–	–
	90	400	BAX12	–	–	–	–	BAS29	–	–
DOUBLE DIODES										
series connected										
	75	250	–	–	–	–	–	BAV99	–	BAV99W
	80	200	–	–	–	–	–	–	–	1PS302 3)
	80	250	–	–	1PS226	–	–	–	–	–
	90	250	–	–	–	–	–	BAS31	–	–
	200	225	–	–	–	–	–	BAV23S	–	–
	100	215	–	–	–	–	–	PMBD7000	–	–
common-anode										
	35	215	–	–	–	–	–	PMBD2835	–	–
	50	215	–	–	–	–	–	PMBD2836	–	–
	75	215	–	–	–	–	–	BAW56	–	BAW56W
	80	200	–	–	–	–	–	–	–	1PS300 3)
	80	250	–	–	1PS181	–	–	–	–	–
	90	250	–	–	–	–	–	BAS35	–	–
common-cathode										
	30	215	–	–	–	–	–	PMBD2837	–	–
	50	215	–	–	–	–	–	PMBD2838	–	–
	50	250	–	–	–	–	–	BAV74	–	–
	70	215	–	–	–	–	–	BAV70	–	BAV70W
	70	215	–	–	–	–	–	PMBD6100	–	–
	80	200	–	–	–	–	–	–	–	1PS301 3)
	80	260	–	–	1PS184	–	–	–	–	–
not connected										
	60	200	–	–	–	–	–	–	BAS56	–
	75	215	–	–	–	–	–	–	BAS28	–
	200	225	–	–	–	–	–	–	BAV23	–

1) double diode 2) SOD123 3) SC70

HIGH-SPEED SWITCHING AND GENERAL-PURPOSE DIODES

	ratings		characteristics					
type number	V_R max. (V)	I_F max. (mA)	t_{rr} max. (ns)	V_F max. (V)	@	I_F (mA)	C_d max. (pF)	package
LEADED TYPES								
BA220	10	200	4	0.95		100	2.5	DO-35
BA221	30	200	4	1.05		200	2.5	DO-35
BA316	10	100	4	1.1		100	2	DO-35
BA317	30	100	4	1.1		100	2	DO-35
BA318	50	100	4	1.1		100	2	DO-35
BAS15	50	100	4	1.1		100	2	DO-34
BAV10	60	300	6	1.0		200	2.5	DO-35
BAV18	50	250	50	1.25		200	5	DO-35
BAV19	100	250	50	1.25		200	5	DO-35
BAV20	150	250	50	1.25		200	5	DO-35
BAV21	200	250	50	1.25		200	5	DO-35
BAW62	75	200	4	1.0		100	2	DO-35
BAX12	90	400	50	1.25		400	35	DO-35
BAX14	20	500	50	1.0		300	35	DO-35
BAX18	75	500	50	1.0		300	35	DO-35
BAY80	120	250	50	1.0		100	6	DO-35
1N914	75	75	4	1.0		10	4	DO-35
1N916	75	75	4	1.0		10	2	DO-35
1N4148	75	200	4	1.0		10	4	DO-35
1N4150	50	300	6	1.0		200	2.5	DO-35
1N4151	50	200	4	1.0		50	2	DO-35
1N4153	50	200	4	0.88		20	2	DO-35
1N4446	75	200	4	1.0		20	4	DO-35
1N4448	75	200	4	1.0		100	4	DO-35
1N4531	75	200	4	1.0		10	4	DO-34
1N4532	75	200	2	1.0		10	2	DO-34
SURFACE-MOUNT TYPES								
BAL74	50	215	4	1.0		50	2	SOT23
BAL74W	75	175	4	1.0		50	1.5	SOT323
BAL99	70	215	4	1.0		50	1.5	SOT23
BAL99W	75	150	4	1.0		50	1.5	SOT323
BAS16	75	250	4	1.0		50	2	SOT23
BAS16W	75	175	4	1.0		50	1.5	SOT323
BAS19	100	200	50	1.25		200	5	SOT23
BAS20	150	200	50	1.25		200	5	SOT23
BAS21	200	200	50	1.25		200	5	SOT23
BAS28	75	215	4	1.0		50	2	SOT143
BAS29	90	250	50	1.25		400	35	SOT23
BAS31[1)]	90	250	50	1.25		400	35	SOT23
BAS32L	75	200	4	1.0		100	2	SOD80C
BAS35[2)]	90	250	50	1.25		400	35	SOT23
BAS55	60	250	6	1.0		200	2.5	SOT23
BAS56[4)]	60	200	6	1.0		200	2.5	SOT143
BAS216	75	250	4	1.0		50	1.2	SOD110

continued

Small-signal diodes

HIGH-SPEED SWITCHING AND GENERAL-PURPOSE DIODES (CONTINUED)

	ratings		characteristics				
type number	V_R max. (V)	I_F max. (mA)	t_{rr} max. (ns)	V_F max. (V)	@ I_F (mA)	C_d max. (pF)	package
SURFACE-MOUNT TYPES							
BAS616	75	250	4	1.0	50	1.5	SOD123
BAS678	80	250	6	1.0	200	2	SOT23
BAV23[4]	200	225	50	1.25	200	5	SOT143
BAV23S[1]	200	225	50	1.25	200	5	SOT23
BAV70[3]	70	215	4	1.0	50	1.5	SOT23
BAV70W[3]	70	215	4	1.0	50	1.5	SOT323
BAV74[3]	50	250	4	1.0	100	2	SOT23
BAV99[1]	75	250	4	1.0	50	1.5	SOT23
BAV99W[1]	75	215	4	1.0	50	1.5	SOT323
BAV100	50	250	50	1.25	200	5	SOD80C
BAV101	100	250	50	1.25	200	5	SOD80C
BAV102	150	250	50	1.25	200	5	SOD80C
BAV103	200	250	50	1.25	200	5	SOD80C
BAV105	60	300	6	1.0	200	2.5	SOD80C
BAW56[2]	75	215	4	1.0	50	2	SOT23
BAW56W[2]	75	150	4	1.0	50	1.5	SOT323
PMBD914	70	215	4	1.0	10	4	SOT23
PMBD2835[2]	35	215	4	1.0	50	4	SOT23
PMBD2836[2]	75	215	4	1.0	50	4	SOT23
PMBD2837[3]	30	215	4	1.0	50	4	SOT23
PMBD2838[3]	50	215	4	1.0	50	4	SOT23
PMBD6050	70	215	4	1.1	100	2.5	SOT23
PMBD6100[3]	70	215	4	1.1	100	2.5	SOT23
PMBD7000[1]	100	215	4	1.1	100	1.5	SOT23
PMLL4148	75	200	4	1.0	10	4	SOD80C
PMLL4150	50	300	6	1.0	200	2.5	SOD80C
PMLL4151	50	200	4	1.0	50	2	SOD80C
PMLL4153	50	200	4	0.88	20	2	SOD80C
PMLL4446	75	200	4	1.0	20	4	SOD80C
PMLL4448	75	200	4	1.0	100	4	SOD80C
1PS181[2]	80	250	4	1.2	100	1.5	SC59
1PS184[3]	80	260	4	1.2	100	1.5	SC59
1PS193	80	260	4	1.2	100	1.5	SC59
1PS226[1]	80	250	4	1.2	100	1.5	SC59
1PS300[2]	80	200	4	1.2	100	1.5	SC70
1PS301[3]	80	250	4	1.2	100	1.5	SC70
1PS302[1]	80	200	4	1.2	100	1.5	SC70

For the double diodes, $V_{R\,max.}$ and $C_{d\,max}$ values are for one diode only;
$C_{d\,max}$ measured at $V_R = 0$ V; f = 1 MHz

[1] double diode, series connected

[2] double diode, common-anode

[3] double diode, common-cathode

[4] double diode, not connected

LOW-LEAKAGE CURRENT DIODES

type number	ratings V_{RRM} max. (V)	V_R max. (V)	I_R [1] max. (nA)	C_d [2] max. (pF)	remarks	package
LEADED TYPE						
BAS45A	125	125	1	4	–	DO-34
SURFACE-MOUNT TYPES						
BAS45AL	125	125	1	4	–	SOD80C
BAS116	85	75	5	2	–	SOT23
BAV45	35	20	0.01	1.3	–	TO-18
BAV170	85	75	5	2	double-diode, common cathode	SOT23
BAV199	85	75	5	2	double diode, series-connected	SOT23
BAW156	85	75	5	2	double-diode, common anode	SOT23

[1] at $V_{Rmax.}$ and $T_j = 25°C$
[2] at $V_R = 0$ V; f = 1 MHz

BAND-SWITCHING DIODES

See **Tuner transistors and diodes** Section

Small-signal diodes

SCHOTTKY-BARRIER DIODES OVERVIEW

V_R max. (V)	I_F max. (mA)	t_{rr} max. (ns)	leaded	surface-mount					
			DO-34	SOD80C	SOD110	SOD123	SOT23	SOT143	SOT323
4	30	–	BA481	–	–	–	–	–	–
4	30	–	–	–	–	–	BAT17	–	–
4	30	–	–	–	–	–	PMBD352[1] PMBD353[1]	–	–
30	200	5	–	–	BAT254	BAT93	BAT54[3]	BAT74[4]	BAT54W[7]
30	200	–	BAT85	BAS85	–	–	–	–	–
40	30	–	BAT81	BAS81	–	–	–	–	–
40	120	0.1[5]	–	–	–	–	BAS40[6]	–	–
50	30	–	BAT82	BAS82	–	–	–	–	–
50	200	–	BAT86	BAS86	–	–	–	–	–
60	30	–	BAT83	BAS83	–	BAT56	–	–	–
70	70	0.1[5]	–	–	–	BAS70-01	BAS70[6]	BAS70-07	BAS70W[6]

[1] double diode series

[3] also available as double diodes:
BAT54A: common anode
BAT54C: common cathode
BAT54S: series connected

[4] double diode, not connected with each other

[5] charge carrier lifetime

[6] also available as double diodes:
suffix -04 (series connected),
suffix -05 (common cathode) and
suffix -06 (common anode)

[7] also available as double diodes:
BAT54AW: common anode
BAT54CW: common cathode
BAT54SW: series connected

SCHOTTKY-BARRIER DIODES

	ratings		characteristics						
type number	V_R max. (V)	I_F max. (mA)	V_F max. (mV) @	I_F (mA)	C_d[1] max. (pF) @	V_R (V)	t_{rr} max. (ns)	package
LEADED TYPES								
BA481	4	30	450	1	1.1	0	–	DO-34
BAT81	40	30	410	1	1.6	1	–	DO-34
BAT82	50	30	410	1	1.6	1	–	DO-34
BAT83	60	30	410	1	1.6	1	–	DO-34
BAT85	30	200	320	1	10	1	–	DO-34
BAT86	50	200	380	1	8	1	–	DO-34
SURFACE-MOUNT TYPES								
BAS40[6]	40	120	380	1	5	0	0.1[5]	SOT23
BAS70[6]	70	70	410	1	2	0	0.1[5]	SOT23
BAS70W[6]	70	70	410	1	2	0	0.1[5]	SOT323
BAS70-01	70	70	410	1	2	0	0.1[5]	SOD123
BAS70-07	70	70	410	1	2	0	0.1[5]	SOT143
BAS81	40	30	410	1	1.6	1	–	SOD80C
BAS82	50	30	410	1	1.6	1	–	SOD80C
BAS83	60	30	410	1	1.6	1	–	SOD80C
BAS85	30	200	320	1	10	1	–	SOD80C
BAS86	50	200	380	1	8	1	4	SOD80C
BAT17	4	30	450	1	1.0	0	–	SOT23
BAT54[3]	30	200	320	1	10	1	5	SOT23
BAT54W[7]	30	200	320	1	10	1	5	SOT323
BAT56	60	30	410	1	1.6	1	–	SOD123
BAT74[4]	30	200	320	1	10	1	5	SOD143
BAT93	30	200	320	1	10	1	5	SOD123
BAT254	30	200	320	1	10	1	5	SOD110
PMBD352[8] & PMBD353[8] series	4	30	450	1	1.0	0	–	SOT23

---

[1] at f = 1 MHz

[3] also available as double diodes:
BAT54A: common anode
BAT54C: common cathode
BAT54S: series connected

[4] double diode, not connected

[5] charge carrier lifetime

[6] also available as double diodes:
suffix -04 (series connected), e.g. BAS40-04, BAS40-04W
suffix -05 (common cathode) and
suffix -06 (common anode)

[7] also available as double diodes:
BAT54AW: common anode
BAT54CW: common cathode
BAT54SW: series connected

[8] double diode series

LOW-VOLTAGE STABISTORS OVERVIEW

V_F typ. (V) at I_F: 1 mA	5 mA	10 mA	V_R max. (V)	V_{RRM} max. (V)	I_{FRM} max. (mA)	S_F typ. (mV/K)	r_{diff} max. (Ω)	leaded DO-35	surface-mount SOD80C	SOT23
0.55	0.62	0.65	20	40	2000	−2.2[1]	6[2]	BAX14	–	–
0.58	0.66	0.70	10	10	400	−2.2[1]	7[2]	BA220	–	–
0.62	0.70	0.75	5	5	225	−2.1[1]	7[2]	BA315	–	–
0.72	0.77	0.79	4	4	250	−1.8[1]	6[2]	BA314	–	BAS17
–	1.40	–	10	10	250	−3.8[3]	20[3]	BZV86-1V4	BZV87-1V4[4]	–
–	2.00	–	10	10	250	−6.0[3]	30[3]	BZV86-2V0	BZV87-2V0[4]	–
–	2.60	–	10	10	175	−8.5[3]	32.5[3]	BZV86-2V6	BZV87-2V6[4]	–
–	3.20	–	10	10	175	−11.5[3]	35[3]	BZV86-3V2	BZV87-3V2[4]	–

[1] at I_F = 1 mA
[2] at I_F = 10 mA
[3] at I_F = 5 mA
[4] SOD80

LOW-VOLTAGE STABISTORS

type number	V_F typ. (V) at I_F: 1 mA (V)	5 mA (V)	10 mA (V)	V_R max. (V)	V_{RRM} max. (V)	I_{FRM} max. (mA)	S_F typ. (mV/K)	r_{diff} max. (Ω)	package
LEADED TYPES									
BA220	0.58	0.66	0.70	10	10	400	−2.2[1]	7[2]	DO-35
BA314	0.72	0.77	0.79	4	4	250	−1.8[1]	6[2]	DO-35
BA315	0.62	0.70	0.75	5	5	225	−2.1[1]	7[2]	DO-35
BAX14	0.55	0.62	0.65	20	40	2000	−2.2[1]	6[2]	DO-35
BZV86-1V4	1.30	1.40	1.50	10	10	250	−3.8[3]	20[3]	DO-35
BZV86-2V0	1.90	2.00	2.10	10	10	250	−6.0[3]	30[3]	DO-35
BZV86-2V6	2.50	2.60	2.70	10	10	150	−8.5[3]	32.5[3]	DO-35
BZV86-3V2	3.05	3.20	3.30	10	10	150	−11.5[3]	35[3]	DO-35
SURFACE-MOUNT TYPES									
BAS17	0.72	0.77	0.79	4	4	250	−1.8[1]	6[2]	SOT23
BZV87-1V4	1.30	1.40	1.50	10	10	250	−3.8[3]	20[3]	SOD80
BZV87-2V0	1.9	2.00	2.10	10	10	250	−6.0[3]	30[3]	SOD80
BZV87-2V6	2.50	2.60	2.70	10	10	150	−8.5[3]	32.5[3]	SOD80
BZV87-3V2	3.05	3.20	3.30	10	10	150	−11.5[3]	35[3]	SOD80

[1] at I_F = 1 mA
[2] at I_F = 10 mA
[3] at I_F = 5 mA

ZENER DIODES OVERVIEW

	leaded			surface-mount				
	DO-35	DO-34	DO-41	SOD80C	SOD110	SOT23	SOT89	SOT223
P_{tot} max. ▸	0.5 W	0.4 W	1.3 W	0.5 W	0.4 W	0.35 W	1.0 W	1.5 W
6.5 V nominal working voltage:								
5% tol.		BZV37[1]						
series in 2.4 to 75 V nominal working voltage range:								
1% tol.	BZX79A					BZX84A		
2% tol.	BZX79B			BZV55B	BZX284B	BZX84B		
3% tol.	BZX79F			BZV55F				
5% tol.	BZX79C		BZV85C[2]	BZV55C	BZX284C	BZX84C	BZV49C	BZV90C
5% tol.	BZX55C							
series in 3.0 to 75 V nominal working voltage range:								
5% tol.	1N5225B to 1N5267B[4]		1N4728A to 1N4749A[5]	PMLL5225B to PMLL5267B[4]		PMBZ5226B to PMBZ5257B[3]		

[1] symmetrical diode
[2] 3.6 V to 75 V nominal working voltage range
[3] 3.3 V to 33 V nominal working voltage range
[4] 3.0 V to 75 V nominal working voltage range
[5] 3.3 V to 24 V nominal working voltage range

ZENER DIODES

type number	V_Z nom. E24 range (V)	V_Z nom. tolerance (%)	I_{FRM} max. (mA)	P_{tot} max. (W)	@ T_{tp} (°C)	P_{ZSM}[1] max. (W)	@ T_j (°C)	package
LEADED TYPES								
BZV37	6.5	5	–	0.4	50[2]	40	25	DO-34
BZV85 series	3.6 to 75	5	250	1.3	55	60	25	DO-41
BZX55 series	2.4 to 75	5	250	0.5	50	40	25	DO-35
BZX79 series	2.4 to 75	1,2,3 or 5	250	0.5	50	40	25	DO-35
1N4728A to 1N4749A	3.3 to 24	5	–	1	50[2]	–	–	DO-41
1N5225B to 1N5267B	3.0 to 75	5	250	0.5	75	10[3]	55	DO-35
SURFACE-MOUNT TYPES								
BZV49 series	2.4 to 75	5	250	1	25[2]	40	25	SOT89
BZV55 series	2.4 to 75	2,3 or 5	250	0.5	50	30	150	SOD80C
BZV90 series	2.4 to 75	5	400	1.3	25[2]	40	25	SOT223
BZX84 series	2.4 to 75	1,2 or 5	250	0.3	25[2]	–	–	SOT23
BZX284 series	2.4 to 75	2 or 5	250	0.4	25[2]	–	–	SOD110
PMBZ5226B to PMBZ5257B	3.3 to 33	5	250	0.3	25[2]	–	–	SOT23
PMLL5225B to PMLL5267B	3.0 to 75	5	250	0.5	75	10[3]	55	SOD80C

[1] at $t_p = 100\ \mu s$ [2] T_{amb} [3] at $t_p = 8.3$ ms

ZENER DIODES (CONTINUED)

type number	V_Z typ. at I_Z=250µA (V)	V_Z typ. at I_Z=10µA (V)	S_Z typ. (mV/K)	I_{FRM} max. (mA)	P_{tot} max. (mW) @	T_{tp} (°C)	P_{ZSM}[1] max. (W) @	T_j (°C)	package
LEADED TYPES									
PLVA400 series, single diodes									
PLVA450A	5.0	4.30	0.2	250	400	55	30	150	DO-35
PLVA453A	5.3	5.20	1.6	250	400	55	30	150	DO-35
PLVA456A	5.6	5.51	1.9	250	400	55	30	150	DO-35
PLVA459A	5.9	5.85	2.4	250	400	55	30	150	DO-35
PLVA462A	6.2	6.19	2.65	250	400	55	30	150	DO-35
PLVA465A	6.5	6.49	2.9	250	400	55	30	150	DO-35
PLVA468A	6.8	6.80	3.4	250	400	55	30	150	DO-35
SURFACE-MOUNT TYPES									
PLVA600 series, single diodes									
PLVA650A	5.0	4.30	0.2	250	250	25[2]			SOT23
PLVA653A	5.3	5.20	1.6	250	250	25[2]	30	150	SOT23
PLVA656A	5.6	5.51	1.9	250	250	25[2]	30	150	SOT23
PLVA659A	5.9	5.85	2.4	250	250	25[2]	30	150	SOT23
PLVA662A	6.2	6.19	2.65	250	250	25[2]	30	150	SOT23
PLVA665A	6.5	6.49	2.9	250	250	25[2]	30	150	SOT23
PLVA668A	6.8	6.80	3.4	250	250	25[2]	30	150	SOT23
PLVA2600 series, double diodes, common anode									
PLVA2650A	5.0	4.30	0.2	250	250	25[2]	30	150	SOT23
PLVA2653A	5.3	5.20	1.6	250	250	25[2]	30	150	SOT23
PLVA2656A	5.6	5.51	1.9	250	250	25[2]	30	150	SOT23
PLVA2659A	5.9	5.85	2.4	250	250	25[2]	30	150	SOT23
PLVA2662A	6.2	6.19	2.65	250	250	25[2]	30	150	SOT23
PLVA2665A	6.5	6.49	2.9	250	250	25[2]	30	150	SOT23
PLVA2668A	6.8	6.80	3.4	250	250	25[2]	30	150	SOT23

---

1) at t_p = 100 µs
2) at T_{amb} = 25 °C

VOLTAGE-REFERENCE DIODES OVERVIEW

V_{ref} nom. (V)	@	I_Z (mA)	$\lvert S_Z \rvert$ max. (%K)	leaded DO-34	surface-mount SOD80
6.2		7.5	0.01	1N821	BZV80
6.2		7.5	0.005	1N823	BZV81
6.2		7.5	0.002	1N825	–
6.2		7.5	0.001	1N827	–
6.2		7.5	0.0005	1N829	–
6.2		2.0	0.01	BZV10	–
6.2		2.0	0.005	BZV11	–
6.2		2.0	0.002	BZV12	–
6.2		2.0	0.001	BZV13	–
6.2		2.0	0.0005	BZV14	–

VOLTAGE-REFERENCE DIODES

type number	V_{ref} nom. (V)	@	I_Z (mA)	I_{ZM} max. (mA)	r_{diff} max. (Ω)	$\lvert S_Z \rvert$ max. (%K)	package
LEADED TYPES							
BZV10	6.2		2.0	50	50[1]	0.01	DO-34
BZV11	6.2		2.0	50	50[1]	0.005	DO-34
BZV12	6.2		2.0	50	50[1]	0.002	DO-34
BZV13	6.2		2.0	50	50[1]	0.001	DO-34
BZV14	6.2		2.0	50	50[1]	0.0005	DO-34
1N821	6.2		7.5	50	15[2]	0.01	DO-34
1N823	6.2		7.5	50	15[2]	0.005	DO-34
1N825	6.2		7.5	50	15[2]	0.002	DO-34
1N827	6.2		7.5	50	15[2]	0.001	DO-34
1N829	6.2		7.5	50	15[2]	0.0005	DO-34
SURFACE-MOUNT TYPES							
BZV80	6.2		7.5	50	15[3]	0.01	SOD80
BZV81	6.2		7.5	50	15[3]	0.005	SOD80

1) at $I_Z = 2$ mA
2) at $I_Z = 7.5$ mA; also available with r_{diff} max. = 10 Ω (type numbers: 1N821A/823A/825A/827A/829A)
3) at $I_Z = 7.5$ mA

TRANSIENT-VOLTAGE SUPPRESSORS

type number	V_{ref} nom. (V)	@	I_Z (mA)	R_Z max. (Ω)	@	I_Z max. (mA)	$\lvert S_Z \rvert$ max. (mV/K)	package
SURFACE-MOUNT TYPES								
BZA100	7.2		5	8		5	3	SO20

Medium-power rectifiers

GENERAL-PURPOSE RECTIFIERS OVERVIEW

	leaded		surface-mount
V_R (V)	SOD81 I_{FSM}: 20 A	SOD57 I_{FSM}: 30 A	SOD87 I_{FSM}: 20 A
50	1N4001ID	1N4001G	PRLL4001
100	1N4002ID	1N4002G	PRLL4002
200	1N4003ID	1N4003G	–
400	1N4004ID	1N4004G	–
600	1N4005ID	1N4005G	–
800	1N4006ID	1N4006G	–
1000	1N4007ID	1N4007G	–

None of the above has controlled avalanche performance.

GENERAL-PURPOSE RECTIFIERS

	ratings				characteristics			
type number	V_{RRM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	V_F max. (V)	@ I_F[1] (A)	package	type
LEADED TYPES								
1N4001ID	50	50	1.0	20	1.1	1.0	SOD81	Implotec
1N4002ID	100	100	1.0	20	1.1	1.0	SOD81	Implotec
1N4003ID	200	200	1.0	20	1.1	1.0	SOD81	Implotec
1N4004ID	400	400	1.0	20	1.1	1.0	SOD81	Implotec
1N4005ID	600	600	1.0	20	1.1	1.0	SOD81	Implotec
1N4006ID	800	800	1.0	20	1.1	1.0	SOD81	Implotec
1N4007ID	1000	1000	1.0	20	1.1	1.0	SOD81	Implotec
1N4001G	50	50	1.0	30	1.1	1.0	SOD57	glass-bead
1N4002G	100	100	1.0	30	1.1	1.0	SOD57	glass-bead
1N4003G	200	200	1.0	30	1.1	1.0	SOD57	glass-bead
1N4004G	400	400	1.0	30	1.1	1.0	SOD57	glass-bead
1N4005G	600	600	1.0	30	1.1	1.0	SOD57	glass-bead
1N4006G	800	800	1.0	30	1.1	1.0	SOD57	glass-bead
1N4007G	1000	1000	1.0	30	1.1	1.0	SOD57	glass-bead
SURFACE MOUNT TYPES								
PRLL4001	50	50	1.6	20	1.1	1.0	SOD87	Implotec
PRLL4002	100	100	1.6	20	1.1	1.0	SOD87	Implotec

[1] measured under pulsed conditions to limit the dissipation; $T_j = 25°C$

DAMPER DIODES OVERVIEW

V_{RRM} (V)	leaded SOD57 16 kHz	SOD64 16 kHz	SOD64 32 kHz	SOD64 64 kHz
1200	BY458	BY438	–	–
1400	–	–	BY328	BY428
1500	BY448	BY228	–	–

DAMPER DIODES

type number	ratings V_{RRM} max. (V)	I_{FWM} max. (A)	characteristics t_{tot} max. (µs)	V_F max. (V) @	I_F[1] (A)	package	type
LEADED TYPES							
BY228	1500	5	20	1.5	5	SOD64	glass-bead
BY328	1400	6	13	1.45	5	SOD64	glass-bead
BY428	1400	4	6	1.95	4	SOD64	glass-bead
BY438	1200	5	20	1.5	5	SOD64	glass-bead
BY448	1500	4	20	1.6	3	SOD57	glass-bead
BY458	1200	4	20	1.6	3	SOD57	glass-bead

[1] measured under pulsed conditions to limit the dissipation; $T_j = 25°C$

Medium-power rectifiers

GENERAL-PURPOSE AVALANCHE RECTIFIERS OVERVIEW

	leaded					surface-mount		
V_R	SOD91	SOD81	SOD57	SOD57	SOD64	SOD87	SOD106	
(V)	0.5 A	1.4 A	2.0 A	2.0 A	3.5 A	1.5 A	2.1 A	◃ $I_{F(AV)max.}$
200	BYD11D	BYD13D	1N5059	–	BYM56A	BYD17D	BYG50D	
400	BYD11G	BYD13G	1N5060	–	BYM56B	BYD17G	BYG50G	
600	BYD11J	BYD13J	1N5061	BYW54[1]	BYM56C	BYD17J	BYG50J	
800	BYD11K	BYD13K	1N5062	BYW55[1]	BYM56D	BYD17K	BYG50K	
1000	BYD11M	BYD13M	–	BYW56[1]	BYM56E	BYD17M	BYG50M	

[1] for high repetitive reverse voltage, use BY527

GENERAL-PURPOSE AVALANCHE RECTIFIERS

	ratings				characteristics			
type number	V_{RWM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	V_F max. (V)	@ I_F[1] (A)	package	type
LEADED TYPES								
1N5059	200	200	2.0	50	1.15	2.5	SOD57	glass-bead
1N5060	400	400	2.0	50	1.15	2.5	SOD57	glass-bead
1N5061	600	600	2.0	50	1.15	2.5	SOD57	glass-bead
1N5062	800	800	2.0	50	1.15	2.5	SOD57	glass-bead
BY527	1250[2]	800	2.0	50	1.65	10.0	SOD57	glass-bead
BYD11D	200	200	0.5	10	1.06	0.5	SOD91	Implotec
BYD11G	400	400	0.5	10	1.06	0.5	SOD91	Implotec
BYD11J	600	600	0.5	10	1.06	0.5	SOD91	Implotec
BYD11K	800	800	0.5	10	1.06	0.5	SOD91	Implotec
BYD11M	1000	1000	0.5	10	1.06	0.5	SOD91	Implotec
BYD13D	200	200	1.4	20	1.05	1.0	SOD81	Implotec
BYD13G	400	400	1.4	20	1.05	1.0	SOD81	Implotec
BYD13J	600	600	1.4	20	1.05	1.0	SOD81	Implotec
BYD13K	800	800	1.4	20	1.05	1.0	SOD81	Implotec
BYD13M	1000	1000	1.4	20	1.05	1.0	SOD81	Implotec
BYM56A	200	200	3.5	80	1.25	5.0	SOD64	glass-bead
BYM56B	400	400	3.5	80	1.25	5.0	SOD64	glass-bead
BYM56C	600	600	3.5	80	1.25	5.0	SOD64	glass-bead
BYM56D	800	800	3.5	80	1.25	5.0	SOD64	glass-bead
BYM56E	1000	1000	3.5	80	1.25	5.0	SOD64	glass-bead
BYW54	600	600	2.0	50	1.65	10.0	SOD57	glass-bead
BYW55	800	800	2.0	50	1.65	10.0	SOD57	glass-bead
BYW56	1000	1000	2.0	50	1.65	10.0	SOD57	glass-bead

continued

GENERAL-PURPOSE AVALANCHE RECTIFIERS (CONTINUED)

	ratings				characteristics			
type number	V_{RWM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	V_F max. (V) @	I_F[1)] (A)	package	type
SURFACE-MOUNT TYPES								
BYG50D	200	200	2.1	25	1.0	1.0	SOD106	plastic
BYG50G	400	400	2.1	25	1.0	1.0	SOD106	plastic
BYG50J	600	600	2.1	25	1.0	1.0	SOD106	plastic
BYG50K	800	800	2.1	25	1.0	1.0	SOD106	plastic
BYG50M	1000	1000	2.1	25	1.0	1.0	SOD106	plastic
BYD17D	200	200	1.5	20	1.05	1.0	SOD87	Implotec
BYD17G	400	400	1.5	20	1.05	1.0	SOD87	Implotec
BYD17J	600	600	1.5	20	1.05	1.0	SOD87	Implotec
BYD17K	800	800	1.5	20	1.05	1.0	SOD87	Implotec
BYD17M	1000	1000	1.5	20	1.05	1.0	SOD87	Implotec

---

1) measured under pulsed conditions to limit the dissipation; $T_j = 25°C$

2) V_{RRM}

4

Medium-power rectifiers

FAST SOFT-RECOVERY CONTROLLED-AVALANCHE RECTIFIERS OVERVIEW

DATA: PAGES 65-66

	leaded					surface-mount		
V_R	SOD91	SOD81	SOD57	SOD64		SOD87	SOD106	
(V)	0.5 A	1.3 A	1.5 A	2.3 A	3.0 A	1.5 A	1.5 A	◁ $I_{F(AV)max.}$
200	BYD31D	BYD33D	BYV95A	–	BYW95A	BYD37D	BYG60D	
			BYV36A	–	BYM36A	–	–	
			BYV26A[1]	BYM26A	–	BYD57D[1]	BYG70D[1]	
400	BYD31G	BYD33G	BYV95B	–	BYW95B	BYD37G	BYG60G	
			BYV36B	–	BYM36B	–	–	
			BYV26B[1]	BYM26B	–	BYD57G[1]	BYG70G[1]	
600	BYD31J	BYD33J	BYV95C	–	BYW95C	BYD37J	BYG60J	
			BYV36C	–	BYM36C	–	–	
			BYV26C[1]	BYM26C	–	BYD57J[1]	BYG70J[1]	
800	BYD31K	BYD33K	BYV96D	–	BYW96D	BYD37K	BYG60K	
			BYV36D	–	BYM36D	–	–	
			BYV26D[1]	BYM26D	–	BYD57K[1]	–	
1000	BYD31M	BYD33M	BYV96E	–	BYW96E	BYD37M	BYG60M	
			BYV36E	–	BYM36E	–	–	
			BYV26E[1]	BYM26E	–	BYD57M[1]	–	
1200	–	BYD33U	BYV97F	–	BYW97F	–	–	
		BYD43U	BYV36F	–	BYM36F	–	–	
		BYD53U	BYV26F[1]	BYM26F	–	–	–	
1400	–	BYD33V	BYV97G	–	BYW97G	–	–	
		BYD43V	BYV36G	–	BYM36G	–	–	
		BYD53V	BYV26G[1]	BYM26G	–	–	–	
1600	–	BYD43-16	–	–	–	BYD47-16	–	
1800	–	BYD43-18	–	–	–	BYD47-18	–	
2000	–	BYD43-20	BYV98	–	–	BYD47-20	–	

In the overview, similar products (commonly products having the same rectifier die design) are aligned horizontally, e.g. BYM36A and BYV36A. And, for each voltage rating, products are listed vertically in decreasing t_{rr}.

[1] $I_{F(AV)max.}$ = 1.0 A

FAST SOFT-RECOVERY CONTROLLED-AVALANCHE RECTIFIERS

	ratings				characteristics				
type number	V_{RRM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	t_{rr} max. (ns)	V_F max. (V)	@ I_F[1] (A)	package	type
LEADED TYPES									
BYD31D	200	200	0.44	5	250	1.35	0.5	SOD91	Implotec
BYD31G	400	400	0.44	5	250	1.35	0.5	SOD91	Implotec
BYD31J	600	600	0.44	5	250	1.35	0.5	SOD91	Implotec
BYD31K	800	800	0.44	5	300	1.35	0.5	SOD91	Implotec
BYD31J	1000	1000	0.44	5	300	1.35	0.5	SOD91	Implotec
BYD33D	200	200	1.3	20	250	1.3	1	SOD81	Implotec
BYD33G	400	400	1.3	20	250	1.3	1	SOD81	Implotec
BYD33J	600	600	1.3	20	250	1.3	1	SOD81	Implotec
BYD33K	800	800	1.3	20	300	1.3	1	SOD81	Implotec
BYD33M	1000	1000	1.3	20	300	1.3	1	SOD81	Implotec
BYD33U	1200	1200	1.26	20	500	1.3	1	SOD81	Implotec
BYD33V	1400	1400	1.26	20	500	1.3	1	SOD81	Implotec
BYD43U[2]	1200	–	1.2	11	250	1.5	1	SOD81	Implotec
BYD43V[2]	1400	–	1.2	11	250	1.5	1	SOD81	Implotec
BYD43-16[2]	1600	–	0.64	10	300	2.4	1	SOD81	Implotec
BYD43-18[2]	1800	–	0.64	10	300	2.4	1	SOD81	Implotec
BYD43-20[2]	2000	–	0.64	10	300	2.4	1	SOD81	Implotec
BYD53U	1200	1200	0.85	5	150	2.3	1	SOD81	Implotec
BYD53V	1400	1400	0.85	5	150	2.3	1	SOD81	Implotec
BYM26A	200	200	2.3	45	30	2.65	2	SOD64	glass-bead
BYM26B	400	400	2.3	45	30	2.65	2	SOD64	glass-bead
BYM26C	600	600	2.3	45	30	2.65	2	SOD64	glass-bead
BYM26D	800	800	2.3	45	75	2.65	2	SOD64	glass-bead
BYM26E	1000	1000	2.3	45	75	2.65	2	SOD64	glass-bead
BYM26F	1200	1200	2.4	45	150	2.3	2	SOD64	glass-bead
BYM26G	1400	1400	2.4	45	150	2.3	2	SOD64	glass-bead
BYM36A	200	200	3.0	65	100	1.60	3	SOD64	glass-bead
BYM36B	400	400	3.0	65	100	1.60	3	SOD64	glass-bead
BYM36C	600	600	3.0	65	100	1.60	3	SOD64	glass-bead
BYM36D	800	800	2.9	65	150	1.78	3	SOD64	glass-bead
BYM36E	1000	1000	2.9	65	150	1.78	3	SOD64	glass-bead
BYM36F	1200	1200	2.9	65	250	1.57	3	SOD64	glass-bead
BYM36G	1400	1400	2.9	65	250	1.57	3	SOD64	glass-bead
BYV26A	200	200	1.0	30	30	2.50	1	SOD57	glass-bead
BYV26B	400	400	1.0	30	30	2.50	1	SOD57	glass-bead
BYV26C	600	600	1.0	30	30	2.50	1	SOD57	glass-bead
BYV26D	800	800	1.0	30	75	2.50	1	SOD57	glass-bead
BYV26E	1000	1000	1.0	30	75	2.50	1	SOD57	glass-bead
BYV26F	1200	1200	1.05	30	150	2.15	1	SOD57	glass-bead
BYV26G	1400	1400	1.05	30	150	2.15	1	SOD57	glass-bead
BYV36A	200	200	1.6	30	100	1.35	1	SOD57	glass-bead
BYV36B	400	400	1.6	30	100	1.35	1	SOD57	glass-bead
BYV36C	600	600	1.6	30	100	1.35	1	SOD57	glass-bead
BYV36D	800	800	1.5	30	150	1.45	1	SOD57	glass-bead
BYV36E	1000	1000	1.5	30	150	1.45	1	SOD57	glass-bead
BYV36F	1200	1200	1.5	30	250	1.45	1	SOD57	glass-bead
BYV36G	1400	1400	1.5	30	250	1.45	1	SOD57	glass-bead

continued

Medium-power rectifiers

FAST SOFT-RECOVERY CONTROLLED-AVALANCHE RECTIFIERS (CONTINUED)

	ratings				characteristics				
type number	V_{RRM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	t_{rr} max. (ns)	V_F max. (V) @	I_F 1) (A)	package	type
LEADED TYPES (CONTINUED)									
BYV95A	200	200	1.5	35	250	1.6	3	SOD57	glass-bead
BYV95B	400	400	1.5	35	250	1.6	3	SOD57	glass-bead
BYV95C	600	600	1.5	35	250	1.6	3	SOD57	glass-bead
BYV96D	800	800	1.5	35	300	1.6	3	SOD57	glass-bead
BYV96E	1000	1000	1.5	35	300	1.6	3	SOD57	glass-bead
BYV97F	1200	1200	1.6	20	500	1.65	3	SOD57	glass-bead
BYV97G	1400	1400	1.6	20	500	1.65	3	SOD57	glass-bead
BYV98 2)	2000	2000	1.1	15	300	2.4	2	SOD57	glass-bead
BYW95A	200	200	3.0	70	250	1.5	5	SOD64	glass-bead
BYW95B	400	400	3.0	70	250	1.5	5	SOD64	glass-bead
BYW95C	600	600	3.0	70	250	1.5	5	SOD64	glass-bead
BYW96D	800	800	3.0	70	300	1.5	5	SOD64	glass-bead
BYW96E	1000	1000	3.0	70	300	1.5	5	SOD64	glass-bead
BYW97F	1200	1200	3.3	60	500	1.45	5	SOD64	glass-bead
BYW97G	1400	1400	3.3	60	500	1.45	5	SOD64	glass-bead
SURFACE-MOUNT TYPES									
BYD37D	200	200	1.5	20	250	1.3	1	SOD87	Implotec
BYD37G	400	400	1.5	20	250	1.3	1	SOD87	Implotec
BYD37J	600	600	1.5	20	250	1.3	1	SOD87	Implotec
BYD37K	800	800	1.5	20	300	1.3	1	SOD87	Implotec
BYD37M	1000	1000	1.5	20	300	1.3	1	SOD87	Implotec
BYD47-16 2)	1600	–	0.8	7	300	2.4	1	SOD87	Implotec
BYD47-18 2)	1800	–	0.8	7	300	2.4	1	SOD87	Implotec
BYD47-20 2)	2000	–	0.8	7	300	2.4	1	SOD87	Implotec
BYD57D	200	200	1.0	15	30	3.6	1	SOD87	Implotec
BYD57G	400	400	1.0	15	30	3.6	1	SOD87	Implotec
BYD57J	600	600	1.0	15	30	3.6	1	SOD87	Implotec
BYD57K	800	800	1.0	15	75	3.6	1	SOD87	Implotec
BYD57M	1000	1000	1.0	15	75	3.6	1	SOD87	Implotec
BYG60D	200	200	1.5	25	250	1.2	1	SOD106	plastic
BYG60G	400	400	1.5	25	250	1.2	1	SOD106	plastic
BYG60J	600	600	1.5	25	250	1.2	1	SOD106	plastic
BYG60K	800	800	1.5	25	300	1.2	1	SOD106	plastic
BYG60M	1000	1000	1.5	25	300	1.2	1	SOD106	plastic
BYG70D	200	200	1.0	20	30	3.6	1	SOD106	plastic
BYG70G	400	400	1.0	20	30	3.6	1	SOD106	plastic
BYG70J	600	600	1.0	20	30	3.6	1	SOD106	plastic

1) measured under pulsed conditions to limit the dissipation; $T_j = 25°C$

2) no controlled avalanche performance

ULTRA-FAST LOW-LOSS CONTROLLED-AVALANCHE RECTIFIERS OVERVIEW

	leaded				surface-mount		
V_R	SOD81	SOD57	SOD64	SOD91	SOD87	SOD106	
(V)	1.7 A	2.0 A	3.5 A	0.55 A	1.9 A	1.1 A	◂ $I_{F(AV)max.}$
50	BYD73A	BYV27-50	BYV28-50	BYD71A	BYD77A	BYG80A$^{1)}$	
100	BYD73B	BYV27-100	BYV28-100	BYD71B	BYD77B	BYG80B$^{1)}$	
150	BYD73C	BYV27-150	BYV28-150	BYD71C	BYD77C	BYG80C$^{1)}$	
200	BYD73D	BYV27-200	BYV28-200	BYD71D	BYD77D	BYG80D$^{1)}$	
250	BYD73E	–	–	BYD71E	BYD77E	BYG80E$^{1)}$	
300	BYD73F	BYV27-300	BYV28-300	BYD71F	BYD77F	BYG80F$^{1)}$	
400	BYD73G	BYV27-400	BYV28-400	BYD71G	BYD77G	BYG80G$^{1)}$	
600	–	BYV99	BYM99	–	–	BYG80J$^{1)}$	

1) in development, available Q3 96

ULTRA-FAST LOW-LOSS CONTROLLED-AVALANCHE RECTIFIERS

	ratings				characteristics				
type number	V_{RRM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	t_{rr} max. (ns)	V_F max. (V) @	$I_F$$^{1)}$ (A)	package	type
LEADED TYPES									
BYD71A	50	50	0.55	7	25	1.05	0.5	SOD91	Implotec
BYD71B	100	100	0.55	7	25	1.05	0.5	SOD91	Implotec
BYD71C	150	150	0.55	7	25	1.05	0.5	SOD91	Implotec
BYD71D	200	200	0.55	7	25	1.05	0.5	SOD91	Implotec
BYD71E	250	250	0.54	7	50	1.11	0.5	SOD91	Implotec
BYD71F	300	300	0.54	7	50	1.11	0.5	SOD91	Implotec
BYD71G	400	400	0.54	7	50	1.11	0.5	SOD91	Implotec
BYD73A	50	50	1.75	25	25	0.98	1	SOD81	Implotec
BYD73B	100	100	1.75	25	25	0.98	1	SOD81	Implotec
BYD73C	150	150	1.75	25	25	0.98	1	SOD81	Implotec
BYD73D	200	200	1.75	25	25	0.98	1	SOD81	Implotec
BYD73E	250	250	1.7	25	50	1.05	1	SOD81	Implotec
BYD73F	300	300	1.7	25	50	1.05	1	SOD81	Implotec
BYD73G	400	400	1.7	25	50	1.05	1	SOD81	Implotec
BYM99	600	600	1.8	40	15	3.6	3	SOD64	glass-bead

continued

ULTRA-FAST LOW-LOSS CONTROLLED-AVALANCHE RECTIFIERS (CONTINUED)

	ratings				characteristics				
type number	V_{RRM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	t_{rr} max. (ns)	V_F max. (V)	@ I_F 1) (A)	package	type
LEADED TYPES (CONTINUED)									
BYV27-50	50	50	2.0	50	25	1.07	3	SOD57	glass-bead
BYV27-100	100	100	2.0	50	25	1.07	3	SOD57	glass-bead
BYV27-150	150	150	2.0	50	25	1.07	3	SOD57	glass-bead
BYV27-200	200	200	2.0	50	25	1.07	3	SOD57	glass-bead
BYV27-300	300	300	1.8	50	50	1.18	3	SOD57	glass-bead
BYV27-400	400	400	1.8	50	50	1.18	3	SOD57	glass-bead
BYV28-50	50	50	3.5	90	30	1.10	5	SOD64	glass-bead
BYV28-100	100	100	3.5	90	30	1.10	5	SOD64	glass-bead
BYV28-150	150	150	3.5	90	30	1.10	5	SOD64	glass-bead
BYV28-200	200	200	3.5	90	30	1.10	5	SOD64	glass-bead
BYV28-300	300	300	3.1	90	50	1.25	5	SOD64	glass-bead
BYV28-400	400	400	3.1	90	50	1.25	5	SOD64	glass-bead
BYV99	600	600	1	20	15	2.7	1	SOD57	glass-bead
SURFACE-MOUNT TYPES									
BYD77A	50	50	1.85	25	25	0.98	1	SOD87	Implotec
BYD77B	100	100	1.85	25	25	0.98	1	SOD87	Implotec
BYD77C	150	150	1.85	25	25	0.98	1	SOD87	Implotec
BYD77D	200	200	1.85	25	25	0.98	1	SOD87	Implotec
BYD77E	250	250	1.85	25	50	1.05	1	SOD87	Implotec
BYD77F	300	300	1.85	25	50	1.05	1	SOD87	Implotec
BYD77G	400	400	1.85	25	50	1.05	1	SOD87	Implotec
BYG80A	50	50	1.6	32	25	0.93	1	SOD106	plastic
BYG80B	100	100	1.6	32	25	0.93	1	SOD106	plastic
BYG80C	150	150	1.6	32	25	0.93	1	SOD106	plastic
BYG80D	200	200	1.6	32	25	0.93	1	SOD106	plastic
BYG80E	250	250	1.5	32	50	0.98	1	SOD106	plastic
BYG80F	300	300	1.5	32	50	0.98	1	SOD106	plastic
BYG80G	400	400	1.5	32	50	0.98	1	SOD106	plastic
BYG80J	600	600	1.0	30	50	1.25	1	SOD106	plastic

1) measured under pulsed conditions to limit the dissipation; T_j = 25°C

SCHOTTKY-BARRIER DIODES OVERVIEW

	leaded	surface-mount			
V_R	SOD81	SOD87	SOD106A	SOT223	
(V)	1.0 A	1.0 A	1.0 A	1.0 A	◃ $I_{F(AV)max.}$
20	1N5817 BYV10-20	PRLL5817	BYG90-20	–	
30	1N5818 BYV10-30	PRLL5818	BYG90-30	–	
40	1N5819 BYV10-40	PRLL5819	BYG90-40	–	
90	–	–	BYG90-90	–	
100	–	–	–	PBYR2100CT[1]	

[1] double diode

SCHOTTKY-BARRIER DIODES

	ratings				characteristics				
type number	V_{RRM} max. (V)	V_R max. (V)	$I_{F(AV)}$ max. (A)	I_{FSM} max. (A)	C_d[1] max. (pF)	V_F max. (mV) @	I_F[2] (A)	package	type
LEADED TYPES									
1N5817	20	20	1	25	80[3]	450	1	SOD81	Implotec
1N5818	30	30	1	25	50[3]	550	1	SOD81	Implotec
1N5819	40	40	1	25	50[3]	600	1	SOD81	Implotec
BYV10-20	20	20	1	–	220[3]	550	1	SOD81	Implotec
BYV10-30	30	30	1	–	220[3]	550	1	SOD81	Implotec
BYV10-40	40	40	1	–	220[3]	550	1	SOD81	Implotec
SURFACE-MOUNT TYPES									
BYG90-20	20	20	1	30	75	550	1	SOD106A	plastic
BYG90-30	30	30	1	30	75	550	1	SOD106A	plastic
BYG90-40	40	40	1	30	75	550	1	SOD106A	plastic
BYG90-90	90	90	1	30	100	790	1	SOD106A	plastic
PBYR2100CT[4]	100	100	1	10	100	790	1	SOT223	plastic
PRLL5817	20	20	1	25	70[3]	450	1	SOD87	Implotec
PRLL5818	30	30	1	25	50[3]	550	1	SOD87	Implotec
PRLL5819	40	40	1	25	50[3]	600	1	SOD87	Implotec

[1] at $V_R = 4$ V

[2] measured under pulsed conditions to limit the dissipation; $T_j = 25°C$

[3] typical value

[4] double diode

VOLTAGE REGULATOR DIODES

	V_Z range[1] (V)	P_{tot} (W) at	T_{tp} (°C)	P_{ZSM}[2] (W)	package
LEADED					
BZD23	3.6 to 270	2.5	25	300	SOD81
BZT03	7.5 to 270	3.25	25	600	SOD57
BZW03	7.5 to 270	6	25	1000	SOD64
SURFACE-MOUNT					
BZD27	3.6 to 270	2.3	105	300	SOD87
BZG03	10 to 270	3	100	600	SOD106

TRANSIENT VOLTAGE SUPPRESSOR DIODES

type number	clamping voltage, V_{CL} (V)	stand-off voltage, V_R[1] (V)	P_{RSM}[3] (W)	package
LEADED				
BZD23-C7V5 to C510	11.3 to 707	6.2 to 430	150	SOD81
BZT03-C7V5 to C510	11.3 to 707	6.2 to 430	300	SOD57
BZW03-C7V5 to C510	11.3 to 707	6.2 to 430	500	SOD64
SURFACE-MOUNT				
BZD27-C7V5 to C510	11.3 to 707	6.2 to 430	150	SOD87
BZG04-8V2 to 430	14.8 to 707	8.2 to 430	300	SOD106

Notes (both tables):

1) E24 range

2) 100 μs square pulse

3) 10/1000 μs exponential pulse

HIGH-VOLTAGE SOFT-RECOVERY RECTIFIERS OVERVIEW

V_{RW} (kV)	V_{RRM} (kV)	f_{scan} 16 kHz	f_{scan} $\geq$ 32 kHz
controlled avalanche types:[1]			
		BY8000 series	**BY8100 series**
4	5	BY8004	BY8104
6	8	BY8006	BY8106
8	10	BY8008	BY8108
10	12	BY8010	BY8110
12	14	BY8012	BY8112
14	17	BY8014	BY8114
16	19	BY8016	BY8116
no avalanche performance:			
		BY8400 series	**BY8500 series**[2]
4	5	BY8404	BY8504
6	8	BY8406	BY8506
8	10	BY8408	BY8508
10	12	BY8410	BY8510
12	14	BY8412	BY8512
14	17	BY8414	BY8514
16	19	BY8416	BY8516
18	22	BY8418	BY8518
20	24	BY8420	BY8520
24	30	BY8424	BY8524

all types have soft-recovery characteristics

[1] for layer-wound line output transformers

[2] in development, available Q2 96

HIGH-VOLTAGE RECTIFIER RECTIFIERS

BYX90G	Medium power stack for X-ray equipment
BYX100G	Medium power stack for medical equipment
BYX120G	Car ignition stack
BYX130G	Car ignition stack

other types available on request

Medium-power rectifiers

HIGH-VOLTAGE SOFT-RECOVERY RECTIFIERS

LEADED TYPES

type number	ratings V_{RW} max. (kV)	 V_{RRM} max. (kV)	 $I_{F(AV)}$ max. (mA)	t_{rr} typ. (ns)
BY8000 SERIES (FAST RECOVERY)				
BY8004	4	5	20	200
BY8006	6	8	10	200
BY8008	8	10	5	200
BY8010	10	12	5	200
BY8012	12	14	5	200
BY8014	14	17	5	200
BY8016	16	19	3	200
BY8400 SERIES (FAST RECOVERY)				
BY8404	4	5	20	200
BY8406	6	8	10	200
BY8408	8	10	5	200
BY8410	10	12	5	200
BY8412	12	14	5	200
BY8414	14	17	5	200
BY8416	16	19	3	200
BY8418	18	22	3	200
BY8420	20	24	3	200
BY8424	24	30	3	200

all types are glass-bead rectifiers in a SOD61 package

type number	ratings V_{RW} max. (kV)	 V_{RRM} max. (kV)	 $I_{F(AV)}$ max. (mA)	t_{rr} typ. (ns)
BY8100 SERIES (VERY FAST RECOVERY)				
BY8104	4	5	20	100
BY8106	6	8	10	100
BY8108	8	10	5	100
BY8110	10	12	5	100
BY8112	12	14	5	100
BY8114	14	17	5	100
BY8116	16	19	3	100
BY8500 SERIES (VERY FAST RECOVERY)				
BY8504	4	5	20	100
BY8506	6	8	10	100
BY8508	8	10	5	100
BY8510	10	12	5	100
BY8512	12	14	5	100
BY8514	14	17	5	100
BY8516	16	19	3	100
BY8518	18	22	3	100
BY8520	20	24	3	100
BY8524	24	30	3	100

HIGH-VOLTAGE RECTIFIERS

type number	ratings V_{RW} max. (kV)	 V_{RRM} max. (kV)	 $I_{F(AV)}$ max. (mA)	t_{rr} typ. (ns)	package
BYX90G	6	7.5	550	350	SOD83
BYX100G	10	11	390	500	SOD88
BYX120G	3	3.0	100	5	SOD88
BYX130G	20	21	100	5000	SOD88

POWERMOS TRANSISTORS INCLUDING TOPFETS

V_{DS} (V)	$R_{DS(on)}$ (Ω)	@ I_D (A)	I_D (A)	P_D (W)	type number	technology	package
50	0.028	25	50	125	BUK106-50L	L^{2}FET	SOT263
50	0.028	25	50	125	BUK106-50LP	L^{2}FET	SOT263
50	0.028	25	50	125	BUK106-50S	L^{2}FET	SOT263
50	0.028	25	50	125	BUK106-50SP	L^{2}FET	SOT263
50	0.028	25	50	125	BUK102-50GS	TOPFET	TO-220AB
50	0.035	25	45	125	BUK102-50DL	L^{2}FET	TO-220AB
50	0.035	25	45	125	BUK102-50GL	L^{2}FET	TO-220AB
60	0.038	10	20	125	BUK202-50X	HS TOPFET	SOT263
60	0.038	10	20	125	BUK202-50Y	HS TOPFET	SOT263
50	0.05	13	29	75	BUK105-50L	L^{2}FET	SOT263
50	0.05	13	29	75	BUK105-50LP	L^{2}FET	SOT263
50	0.05	13	29	75	BUK105-50S	L^{2}FET	SOT263
50	0.05	13	29	75	BUK105-50SP	L^{2}FET	SOT263
50	0.05	13	29	75	BUK101-50GS	TOPFET	TO-220AB
50	0.1	7.5	15	40	BUK104-50L	L^{2}FET	SOT263
50	0.1	7.5	15	40	BUK104-50LP	L^{2}FET	SOT263
50	0.1	7.5	15	40	BUK104-50S	L^{2}FET	SOT263
50	0.125	7.5	13.5	40	BUK100-50DL	L^{2}FET	TO-220AB
50	0.125	7.5	13.5	40	BUK100-50GL	L^{2}FET	TO-220AB
50	0.1	5	10	50	BUK200-50X	HS TOPFET	SOT263
50	0.1	5	10	50	BUK200-50Y	HS TOPFET	SOT263
50	0.22	2	4	50	BUK203-50X	HS TOPFET	SOT263
50	0.22	2	4	50	BUK203-50Y	HS TOPFET	SOT263
60	0.020	25	60	150	BUK456-60H	MOSFET N	TO-220AB
60	0.020	25	60	150	BUK466-60H	MOSFET N	SOT404
60	0.022	25	52	150	BUK556-60H	L^{2}FET	TO-220AB
60	0.022	25	52	150	BUK566-60H	L^{2}FET	SOT404
60	0.026	25	50	150	BUK556-60A	L^{2}FET	TO-220AB
60	0.026	25	50	150	BUK566-60A	L^{2}FET	SOT404
60	0.028	29	52	150	BUK456-60A	MOSFET N	TO-220AB
60	0.028	29	52	150	BUK466-60A	MOSFET N	SOT404
60	0.028	29	50	125	BUK436-60A	MOSFET N	SOT93
60	0.03	29	51	150	BUK456-60B	MOSFET N	TO-220AB
60	0.033	29	46	125	BUK436-60B	MOSFET N	SOT93
60	0.034	20	43	125	BUK465-60H	MOSFET N	SOT404
60	0.038	20	41	125	BUK455-60A	MOSFET N	TO-220AB
60	0.038	20	41	125	BUK465-60A	MOSFET N	SOT404
60	0.038	20	41	125	BUK565-60H	L^{2}FET	SOT404
60	0.038	20	21	30	BUK445-60A	MOSFET N	SOT186
60	0.042	20	39	125	BUK555-60A	L^{2}FET	TO-220AB
60	0.042	20	39	125	BUK565-60A	L^{2}FET	SOT404
60	0.045	20	38	125	BUK455-60B	MOSFET N	TO-220AB
60	0.045	20	20	30	BUK445-60B	MOSFET N	SOT186
60	0.055	20	35	125	BUK555-60B	L^{2}FET	TO-220AB
60	0.08	10	22	75	BUK453-60A	MOSFET N	TO-220AB
60	0.080	10	22	75	BUK463-60A	MOSFET N	SOT404
60	0.08	9	13	25	BUK443-60A	MOSFET N	SOT186
60	0.085	10	21	75	BUK553-60A	L^{2}FET	TO-220AB
60	0.085	10	21	75	BUK563-60A	L^{2}FET	SOT404
60	0.085	10	13	25	BUK543-60A	L^{2}FET	SOT186
60	0.1	10	20	75	BUK553-60B	L^{2}FET	TO-220AB
60	0.1	10	20	75	BUK453-60B	MOSFET N	TO-220AB
60	0.1	10	12	25	BUK543-60B	L^{2}FET	SOT186

continued

PowerMOS transistors including TOPFETs and IGBTs

POWERMOS TRANSISTORS INCLUDING TOPFETS

V_{DS} (V)	$R_{DS(on)}$ (Ω)	@ I_D (A)	I_D (A)	P_D (W)	type number	technology	package
60	0.1	9	12	25	BUK443-60B	MOSFET N	SOT186
60	0.1	3.2	3.2	1.8	BUK483-60A	MOSFET N	SOT223
60	0.1	3.2	3.2	1.8	BUK583-60A	L^2FET	SOT223
60	0.13	8.5	15	60	BUK452-60A	MOSFET N	TO-220AB
60	0.130	8.5	15	60	BUK462-60A	MOSFET N	SOT404
60	0.13	2.5	2.5	1.7	BUK482-60A	MOSFET N	SOT223
60	0.15	8.5	14	60	BUK552-60A	L^2FET	TO-220AB
60	0.15	8.5	14	60	BUK452-60B	MOSFET N	TO-220AB
60	0.150	8.5	14	60	BUK562-60A	L^2FET	SOT404
60	0.15	8.5	9.2	22	BUK542-60A	L^2FET	SOT186
60	0.15	2.7	2.7	1.7	BUK582-60A	L^2FET	TO-220AB
60	0.18	8.5	8.4	22	BUK542-60B	L^2FET	SOT186
60	0.18	8.5	13	60	BUK552-60B	L^2FET	TO-220AB
60	0.35	1.6	1.6	1.5	BUK481-60A	MOSFET N	SOT223
60	0.40	1.5	1.5	1.5	BUK581-60A	L^2FET	SOT223
100	0.057	15	34	150	BUK456-100A	MOSFET N	TO-220AB
100	0.057	15	34	150	BUK466-100A	MOSFET N	SOT404
100	0.057	15	33	125	BUK436-100A	MOSFET N	SOT93
100	0.065	15	32	150	BUK456-100B	MOSFET N	TO-220AB
100	0.065	15	31	125	BUK436-100B	MOSFET N	SOT93
100	0.08	13	26	125	BUK455-100A	MOSFET N	TO-220AB
100	0.080	13	26	125	BUK465-100A	MOSFET N	SOT404
100	0.08	13	14	30	BUK445-100A	MOSFET N	SOT186
100	0.085	13	25	125	BUK555-100A	L^2FET	TO-220AB
100	0.085	13	25	125	BUK565-100A	L^2FET	SOT404
100	0.085	13	13	30	BUK545-100A	L^2FET	SOT186
100	0.1	13	23	125	BUK455-100B	MOSFET N	TO-22OAB
100	0.1	13	12	30	BUK445-100B	MOSFET N	SOT186
100	0.11	13	22	125	BUK555-100B	L^2FET	TO-22OAB
100	0.11	13	12	30	BUK545-100B	L^2FET	SOT186
100	0.16	5	9	25	BUK443-100A	MOSFET N	SOT186
100	0.16	5	14	75	BUK453-100A	MOSFET N	TO-22OAB
100	0.160	5	14	75	BUK463-100A	MOSFET N	SOT404
100	0.18	5	8.3	25	BUK543-100A	L^2FET	SOT186
100	0.18	6.5	13	75	BUK553-100A	L^2FET	TO-22OAB
100	0.180	6.5	13	75	BUK563-100A	L^2FET	SOT404
100	0.2	5	8	25	BUK443-100B	MOSFET N	SOT186
100	0.2	5	13	75	BUK453-100B	MOSFET N	TO-220AB
100	0.22	5	7.5	25	BUK543-100B	L^2FET	SOT186
100	0.22	6.5	12	75	BUK553-100B	L^2FET	TO-22OAB
100	0.250	5.5	11	60	BUK462-100A	MOSFET N	SOT404
100	0.25	5.5	6.6	22	BUK442-100A	MOSFET N	SOT186
100	0.28	5.5	6.3	22	BUK542-100A	L^2FET	SOT186
100	0.28	5.5	10	60	BUK552-100A	L^2FET	TO-220AB
100	0.280	5.5	10	60	BUK562-100A	L^2FET	SOT404
100	0.28	1.8	1.8	1.8	BUK482-100A	MOSFET N	SOT223
100	0.3	5.5	6.1	22	BUK442-100B	MOSFET N	SOT186
100	0.31	1.7	1.7	1.8	BUK582-100A	L^2FET	SOT223
100	0.35	5.5	8.5	60	BUK552-100B	L^2FET	TO-220AB
100	0.35	5.5	5.6	22	BUK542-100B	L^2FET	SOT186
100	0.8	1	1	1.5	BUK481-100A	MOSFET N	SOT223
100	0.85	2.5	3	20	BUK441-100A	MOSFET N	SOT186
100	0.85	2.5	3	20	BUK541-100A	L^2FET	SOT186
100	0.85	2.5	3	40	BUK551-100A	L^2FET	TO-220AB

continued

POWERMOS TRANSISTORS INCLUDING TOPFETS

V_{DS} (V)	$R_{DS(on)}$ (Ω)	@ I_D (A)	I_D (A)	P_D (W)	type number	technology	package
100	0.9	0.9	0.9	1.5	BUK581-100A	L^{2}FET	SOT223
100	1.1	2.5	3	20	BUK441-100B	MOSFET N	SOT186
200	0.16	10	19	150	BUK456-200A	MOSFET N	TO-220AB
200	0.16	10	19	125	BUK436-200A	MOSFET N	SOT93
200	0.2	10	17	125	BUK436-200B	MOSFET N	SOT93
200	0.2	10	17	150	BUK456-200B	MOSFET N	TO-220AB
200	0.23	7	7.6	30	BUK545-200A	L^{2}FET	SOT186
200	0.23	7	7.6	30	BUK445-200A	MOSFET N	SOT186
200	0.23	7	14	125	BUK555-200A	L^{2}FET	TO-220AB
200	0.23	7	14	125	BUK455-200A	MOSFET N	TO-220AB
200	0.230	7	14	125	BUK465-200A	MOSFET N	SOT404
200	0.230	7	14	125	BUK565-200A	L^{2}FET	SOT404
200	0.28	7	7	30	BUK545-200B	L^{2}FET	SOT186
200	0.28	7	7	30	BUK445-200B	MOSFET N	SOT186
200	0.28	7	13	125	BUK555-200B	L^{2}FET	TO-220AB
200	0.28	7	13	125	BUK455-200B	MOSFET N	TO-220AB
200	0.4	3.5	9.2	90	BUK454-200A	MOSFET N	TO-220AB
200	0.4	3.5	9.2	90	BUK554-200A	L^{2}FET	TO-220AB
200	0.4	3.5	5.3	25	BUK444-200A	MOSFET N	SOT186
200	0.5	3.5	8.2	90	BUK554-200B	L^{2}FET	TO-220AB
200	0.5	3.5	8.2	90	BUK454-200B	MOSFET N	TO-220AB
200	0.5	3.5	4.7	25	BUK444-200B	MOSFET N	SOT186
400	0.5	6.5	11	150	BUK457-400B	MOSFET N	TO-220AB
400	1	2.5	6.5	100	BUK455-400B	MOSFET N	TO-220AB
400	1	2.5	3.8	30	BUK445-400B	MOSFET N	SOT186
400	1.8	1.5	4.2	75	BUK454-400B	MOSFET N	TO-220AB
400	1.8	1.5	2.4	25	BUK444-400B	MOSFET N	SOT186
500	0.8	6.5	9	150	BUK457-500B	MOSFET N	TO-220AB
500	1.5	2.5	5.3	100	BUK455-500B	MOSFET N	TO-220AB
500	1.5	2.5	2.9	30	BUK445-500B	MOSFET N	SOT186
500	2.8	1.5	3.3	75	BUK454-500B	MOSFET N	TO-220AB
500	2.8	1.2	1.9	25	BUK444-500B	MOSFET N	SOT186
600	1.2	6.5	7.1	150	BUK457-600B	MOSFET N	TO-220AB
600	2.5	2.5	4	100	BUK455-600B	MOSFET N	TO-220AB
600	2.5	2.5	2.2	30	BUK445-600B	MOSFET N	SOT186
600	4.5	1.2	2.6	75	BUK454-600B	MOSFET N	TO-220AB
600	4.5	1.2	1.5	25	BUK444-600B	MOSFET N	SOT186
800	1.5	4	7.6	220	BUK438-800A	MOSFET N	SOT93
800	2	4	6.6	220	BUK438-800B	MOSFET N	SOT93
800	3	1.5	4	125	BUK456-800A	MOSFET N	TO-220AB
800	3	1.5	2	30	BUK446-800A	MOSFET N	SOT186
800	4	1.5	3.5	125	BUK456-800B	MOSFET N	TO-220AB
800	4	1.5	1.7	30	BUK446-800B	MOSFET N	SOT186
800	6	1	2.4	100	BUK454-800A	MOSFET N	TO-220AB
800	6	1	1.4	30	BUK444-800A	MOSFET N	SOT186
800	8	1	2	100	BUK454-800B	MOSFET N	TO-220AB
800	8	1	1.2	30	BUK444-800B	MOSFET N	SOT186
1000	5	1.5	3.1	125	BUK456-1000B	MOSFET N	TO-220AB
1000	5	1.5	1.5	30	BUK446-1000B	MOSFET N	SOT186

IGBTs

V_{CE} (V)	V_{CEsat} (V)	I_C (A)	t_f (µs)	P_D (W)	type number	technology	package
400	2.2	15	10	125	BUK856-400IZ	Protected L^2IGBT	TO-220AB
450	1.8	15	8	125	BUK856-450IX	Protected IGBT	TO-220AB
500	2.0	15	6	85	BUK854-500IS	IGBT	TO-220AB
800	3.5	12	0.4	85	BUK854-800A	Fast IGBT	TO-220AB
800	3.5	24	0.4	125	BUK856-800A	Fast IGBT	TO-220AB

HIGH-VOLTAGE AND SWITCHING NPN POWER TRANSISTORS

V_{CESM} max. (V)	V_{CEO} max. (V)	I_C max. (A)	P_{tot} (W)	type number	package
800	400	0.5	42	BUX86P	SOT82
800	400	2	18	BUX84F	SOT186
800	400	2	40	BUX84	TO-220AB
800	400	2	50	BUW84	SOT82
850	400	5	20	BUT211X	SOT186A
850	400	5	32	BUT11F	SOT186
850	400	5	100	BUT11	TO-220AB
850	400	5	100	BUT211	TO-220AB
850	400	5	100	BUW11	SOT93
850	400	6	110	BUT18	TO-220AB
850	400	8	23	BUT12F	SOT186
850	400	8	34	BUW12F	SOT199
850	400	8	125	BUT12	TO-220AB
850	400	15	37	BUW13F	SOT199
850	450	15	175	BUW13	SOT93
1000	450	0.5	20	BUW14	SOT82
1000	450	0.5	42	BUX87P	SOT82
1000	450	2	18	BUX85F	SOT186
1000	450	2	40	BUX85	TO-220AB
1000	450	3	50	BUW85	SOT82
1000	450	4	33	BUT18AF	SOT186
1000	450	5	20	BUT11AF	SOT186
1000	450	5	20	BUT11AX	SOT186A
1000	450	5	32	BUW11AF	SOT199
1000	450	5	100	BUT11A	TO-220AB
1000	450	5	100	BUW11A	SOT93
1000	450	6	110	BUT18A	TO-220AB
1000	450	8	23	BUT12AF	SOT186
1000	450	8	125	BUT12A	TO-220AB
1000	450	15	37	BUW13AF	SOT199
1000	450	15	175	BUW13A	SOT93
1500	700	2.5	20	BU505DF	SOT186
1500	700	2.5	20	BU505F	SOT186
1500	700	2.5	75	BU505	TO-220AB
1500	700	2.5	75	BU505D	TO-220AB
1500	700	5	20	BU506DF	SOT186
1500	700	5	32	BU706DF	SOT199
1500	700	5	45	BU2506DF	SOT199
1500	700	5	45	BU2506DX	SOT199
1500	700	5	100	BU506	TO-220AB
1500	700	5	100	BU506D	TO-220AB
1500	700	8	34	BU508AF	SOT199
1500	700	8	34	BU508DF	SOT199
1500	700	8	125	BU508A	SOT93A
1500	700	8	125	BU508D	SOT93A

HIGH-VOLTAGE AND SWITCHING NPN POWER TRANSISTORS (continued)

V_{CESM} max. (V)	V_{CEO} max. (V)	I_C max. (A)	P_{tot} (W)	type number	package
1500	700	8	35	BU1508AX	SOT186A
1500	700	8	35	BU1508DX	SOT186A
1500	700	8	45	BU2508AF	SOT199
1500	700	8	45	BU2508AX	TOP3D
1500	700	8	45	BU2508DF	SOT199
1500	700	8	45	BU2508DX	TOP3D
1500	700	8	125	BU2508A	SOT93
1500	700	8	125	BU2508D	SOT93
1500	800	10	45	BU2520AF	SOT199
1500	800	10	45	BU2520AX	TOP3D
1500	800	10	45	BU2520DF	SOT199
1500	800	10	45	BU2520DX	TOP3D
1500	800	10	45	BU2522AF	SOT199
1500	800	10	45	BU2522AX	TOP3D
1500	800	10	125	BU2520A	SOT93
1500	800	10	125	BU2520D	SOT93
1500	800	12	45	BU2525AF	SOT199
1500	800	12	45	BU2525AX	TOP3D
1500	800	12	45	BU2527AF	SOT199
1500	800	12	45	BU2527AX	TOP3D
1500	800	12	125	BU2525A	SOT93
1500	800	40	125	BU2530AL	TOP3L
1700	825	8	45	BU2708AF	SOT199
1700	825	8	45	BU2708DF	SOT199
1700	825	10	45	BU2720AF	SOT199
1700	825	10	45	BU2720DF	SOT199
1700	825	10	45	BU2722AF	SOT199
1700	825	12	125	BU2727A	SOT93
1700	825	12	45	BU2727AF	SOT199
1750	850	5	35	BU1706AX	SOT186A
1750	850	5	100	BU1706A	TO-220AB

FAST RECTIFIER DIODES (DAMPER DIODES)

type number	V_{RRM} range (V)	$I_{F(AV)}$ max. (A)	V_F (V)	t_{rr} (ns)	package
BY229	200, 400, 600, 800	8	1.5	135	TO-220AC
BY229F	200, 400, 600, 800	8	1.5	135	SOT186
BY229X	200, 400, 600, 800	8	1.5	135	SOT186A
BY329	800, 1000, 1200	8	1.5	135	TO-220AC
BY329X	800, 1000, 1200	8	1.5	135	SOT186A
BY359	1500	10	1.5	600	TO-220AC
BY359F	1500	10	1.5	600	SOT186
BY359X	1500	10	1.5	600	SOT186A
BY459	1500	10	1.3	500	TO-220AC
BY459F	1500	10	1.3	500	SOT186
BY459X	1500	10	1.3	500	SOT186A
BY479X	1700	10	1.2	300	SOT186A

SCHOTTKY RECTIFIER DIODES

type number	V_{RRM} range (V)	$I_{F(AV)}$ max. (A)	V_F (V)	single/ double	package
PBYR1025	20, 25	10	0.41	single	TO-220AC
PBYR1525CT	20, 25	15	0.41	dual	TO-220AB
PBYR2025CT	20, 25	20	0.41	dual	TO-220AB
PBYR245CT	35, 40, 45	2	0.45	dual	SOT223
PBYR735-45	35, 40, 45	7.5	0.57	single	TO-220AC
PBYR735F-45F	35, 40, 45	7.5	0.57	single	SOT186
PBYR635CT-45CT	35, 40, 45	10	0.60	dual	SOT82
PBYR1035-45	35, 40, 45	10	0.57	single	TO-220AC
PBYR1035B-45B	35, 40, 45	10	0.57	single	SOT404
PBYR1035F-45F	35, 40, 45	10	0.57	single	SOT186
PBYR1535CT-45CT	35, 40, 45	15	0.57	dual	TO-220AB
PBYR1535CTF-45CTF	35, 40, 45	15	0.57	dual	SOT186
PBYR1635-45	35, 40, 45	16	0.57	single	TO-220AC
PBYR1635B-45B	35, 40, 45	16	0.57	single	SOT404
PBYR1635F-45F	35, 40, 45	16	0.57	single	SOT186
PBYR2035CT-45CT	35, 40, 45	20	0.57	dual	TO-220AB
PBYR2035CTF-45CTF	35, 40, 45	20	0.57	dual	SOT186
PBYR2535CTB-45CTB	35, 40, 45	20	0.51	dual	SOT404
PBYR2535CTF-45CTF	35, 40, 45	20	0.51	dual	SOT186
PBYR2535CT-45CT	35, 40, 45	30	0.73	dual	TO-220AB
PBYR3035PT-45PT	35, 40, 45	30	0.60	dual	SOT93
PBYR3035PTF-45PTF	35, 40, 45	15	0.60	dual	SOT186
PBYR10100 series	60, 80, 100	10	0.70	single	TO-220AC
PBYR20100CT series	60, 80, 100	20	0.70	dual	TO-220AB
PBYR20100CTB	60, 80, 100	20	0.70	dual	SOT404
PBYR30100PT series	60, 80, 100	30	0.70	dual	SOT93
BYV118 series	35, 40, 45	10	0.60	dual	TO-220AB
BYV118F series	35, 40, 45	10	0.60	dual	SOT186

continued

SCHOTTKY RECTIFIER DIODES

type number	V_{RRM} range (V)	$I_{F(AV)}$ max. (A)	V_F (V)	single/ double	package
BYV133 series	35, 40, 45	20	0.60	dual	TO-220AB
BYV133F series	35, 40, 45	20	0.60	dual	SOT186
BYV143B series	35, 40, 45	20	0.62	dual	SOT404
BYV143 series	35, 40, 45	30	0.62	dual	TO-220AB
BYV143F series	35, 40, 45	20	0.62	dual	SOT186

ULTRA FAST (EPITAXIAL) DIODES

type number	V_{RRM} range (V)	$I_{F(AV)}$ max. (A)	V_F (V)	t_{rr} (ns)	single/ double	package
BYT28	300, 400, 500	10	1.05	50	dual	TO-220AB
BYQ28	100, 150, 200	10	0.85	20	dual	TO-220AB
BYQ28E	100, 150, 200	10	0.90	20	dual	TO-220AB
BYQ28EB	100, 150, 200	10	0.90	20	dual	SOT404
BYQ28EX	100, 150, 200	10	0.90	20	dual	SOT186A
BYQ28F	100, 150, 200	10	0.85	20	dual	SOT186
BYQ28X	100, 150, 200	10	0.90	20	dual	SOT186A
BYR29	500, 600, 700, 800	8	1.5	75	single	TO-220AC
BYR29F	600, 700, 800	8	1.5	75	single	SOT186
BYV29	300, 400, 500	9	1.05	50	single	TO-220AC
BYV29F	300, 400, 500	9	1.05	50	single	SOT186
BYW29	100, 150, 200	8	0.8	25	single	TO-220AC
BYW29E	100, 150, 200	8	0.9	25	single	TO-220AC
BYW29EB	100, 150, 200	8	0.90	25	single	SOT404
BYW29EX	100, 150, 200	8	0.90	25	single	SOT186A
BYW29F	100, 150, 200	8	0.8	25	single	SOT186
BYV32	100, 150, 200	20	0.85	25	dual	TO-220AB
BYV32E	100, 150, 200	20	0.85	25	dual	TO-220AB
BYV32EB	100, 150, 200	20	0.85	25	dual	SOT404
BYV32EX	100, 150, 200	20	0.90	25	dual	SOT186A
BYV32F	100, 150, 200	12	0.85	25	dual	SOT186
BYV34	300, 400, 500	20	0.93	50	dual	TO-220AB
BYV40	100, 150, 200	1.5	1.0	50	dual	SOT223
BYV40E	100, 150, 200	10	0.90	20	dual	SOT186A
BYV42	100, 150, 200	30	0.85	28	dual	TO-220AB
BYV42E	100, 150, 200	30	0.85	28	dual	TO-220AB
BYV42EB	100, 150, 200	30	0.85	28	dual	SOT404
BYV42EX	100, 150, 200	1.5	1.0	50	dual	SOT186A
BYV42F	100, 150, 200	30	0.85	28	dual	SOT186A
BYV44	300, 400, 500	30	1.05	50	dual	TO-220AB
BYV72	100, 150, 200	30	0.85	28	dual	SOT93
BYV72E	100, 150, 200	30	0.90	28	dual	SOT93
BYV72F	100, 150, 200	20	0.85	28	dual	SOT199
BYV74	300, 400, 500	30	1.05	50	dual	SOT93
BYV74F	300, 400, 500	20	1.05	50	dual	SOT199

continued

ULTRA FAST (EPITAXIAL) DIODES

type number	V_{RRM} range (V)	$I_{F(AV)}$ max. (A)	V_F (V)	t_{rr} (ns)	single/ double	package
BYT79	300, 400, 500	14	1.05	50	dual	TO-220AC
BYV79	100, 150, 200	14	0.85	30	single	TO-220AC
BYV79E	100, 150, 200	14	0.90	30	single	TO-220AC
BYV79EB	100, 150, 200	14	0.90	30	single	SOT404

BREAKOVER DIODES

type number	V_{BO} nom. (V)	I_H (mA)	I_{TSM} (A)	package
BR211	140 to 280	>150	40	SOD84

Thyristors and Triacs

THYRISTORS

$I_{T(RMS)}$ max. (V)	V_{RRM} max. (V)	type number	package
0.8	200 - 600	BT149 series	TO-92
0.8	200 - 600	BT169 series	TO-92
0.8	200	2N5064	TO-92
1	400 - 600	BT148W series	SOT223
4	400 - 600	BT148 series	SOT82
4	500	BT150	TO-220AB
9	500 - 800	BT151F series	SOT186
9	500 - 800	BT151X series	SOT186A
12	500 - 800	BT151 series	TO-220AB
12	500 - 800	BTA151 series	SOT82
20	400 - 800	BT152 series	TO-220AB
25	500 - 800	BT145 series	TO-220AB

TRIACS

$I_{T(RMS)}$ max. (V)	V_{DRM} max. (V)	type number	gate sensitivity options*	package
1	500 - 800	BT134W series	std./E/D	SOT223
4	500 - 800	BT134 series	std./G/F/E/D	SOT82
4	500 - 800	BT136 series	std./G/F/E/D	TO-220AB
4	500 - 800	BT136F series	std./G/F/E/D	SOT186
4	500 - 800	BT136X series	std./G/F/E	SOT186A
8	500 - 800	BT137 series	std./G/F/E/D	TO-220AB
8	500 - 800	BT137F series	std./G/F/E/D	SOT186
8	500 - 800	BT137X series	std./G/F/E	SOT186A
8	600 - 800	BTA208B series	HI-COM	TO-220AB
8	600 - 800	BTA208BX series	HI-COM	SOT186A
12	500 - 800	BT138 series	std./G/F/E	TO-220AB
12	500 - 800	BT138F series	std./G/F/E	SOT186
12	500 - 800	BT138X series	std./G/F/E	SOT186A
12	600 - 800	BTA212B series	HI-COM	TO-220AB
12	600 - 800	BTA212BX series	HI-COM	SOT186A
16	500 - 800	BT139 series	std./G/F/E	TO-220AB
16	500 - 800	BT139F series	std./G/F/E	SOT186
16	500 - 800	BT139H series	G	TO-220AB
16	800	BT139X series	std./G/F/E	SOT186A
16	600 - 800	BTA216B series	HI-COM	TO-220AB
16	600 - 800	BTA216BX series	HI-COM	SOT186A
25	500 - 800	BTA140 series	std.	TO-220AB
25	600 - 800	BTA225B series	HI-COM	TO-220AB

* gate sensitivity:

	$I_{GTmax.}$
std.:	35 mA
G:	50 mA
F:	25 mA
E:	10 mA
D:	5 mA

DIACS

I_{FRM} max. (V)	$V_{(BO)}$ (V)	type number	package
2	28 - 36	BR100/03	DO-35

continued

NPN TUNER TRANSISTORS

type	ratings			characteristics[1]					package
number	V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (MHz)	F (dB)	@ f (MHz)	G_{UM} (dB)	@ f (MHz)	
SURFACE-MOUNT TYPES									
BF547	20	50	300	1200	4.5	100	20	100	SOT23
BF547W	20	50	300	1200	4.5	100	20	100	SOT323
BF747	20	50	150	1200	4.5	100	20	100	SOT23
BFG67	10	50	300	8000	1.3	1000	17	1000	SOT143
BFR92A	15	25	300	5000	2.1	1000	14	1000	SOT23
BFR93A	12	35	300	6000	1.9	1000	13	1000	SOT23
BFS17	15	25	300	1000	4.5	500	–	–	SOT23
BFS17A	15	25	300	2800	2.5	800	13.5	800	SOT23

listed above is a selection of popular types for TV tuners;
for a complete overview of RF wideband transistors, see Philips Semiconductors Data Handbook SC14.

DUAL-GATE N-CHANNEL MOSFETS

type	ratings		characteristics							package	remarks
number	V_{DS} max. (V)	I_D max. (mA)	I_{DSS} min. (mA)	I_{DSS} max. (mA)	$-V_{(P)G1-S}$ max. (V)	$\lvert y_{fs} \rvert$ min. (mS)	C_{is} typ. (pF)	C_{os} typ. (pF)	F typ. (dB)		
SURFACE-MOUNT TYPES											
BF901[2]	12	30	–	–	−0.7	25	2.4	1.4	1.7	SOT143	VHF/UHF
BF901R[2]	12	30	–	–	−0.7	25	2.4	1.4	1.7	SOT143R	VHF/UHF
BF904[2][3]	7	30	–	–	−1	22	2.2	1.3	2.0	SOT143	VHF/UHF
BF904R[2][3]	7	30	–	–	−1	22	2.2	1.3	2.0	SOT143	VHF/UHF
BF904WR[2][3]	7	30	–	–	−1	22	2.2	1.3	2.0	SOT343R	VHF/UHF
BF908	12	40	3	27	2	36	3.1	1.7	1.5	SOT143	VHF/UHF
BF908R	12	40	3	27	2	36	3.1	1.7	1.5	SOT143R	VHF/UHF
BF908WR	12	40	3	27	2	36	3.1	1.7	1.5	SOT343R	VHF/UHF
BF909	7	40	–	–	−1	36	3.6	2.3	2.0	SOT143	VHF/UHF
BF909R	7	40	–	–	−1	36	3.6	2.3	2.0	SOT143R	VHF/UHF
BF909WR[2]	7	40	–	–	−1	36	3.6	2.3	2.0	SOT343R	VHF/UHF
BF989	20	20	2	20	2.7	9.5	1.8	0.9	2.8	SOT143	UHF
BF990A	18	30	–	–	1.3	18	2.6	1.2	2.0	SOT143	UHF
BF990AR	18	30	–	–	1.3	18	2.6	1.2	2.0	SOT143R	UHF
BF991	20	20	4	25	2.5	10	2.1	1.1	0.7	SOT143	VHF
BF992	20	40	–	–	1.3	20	4.0	2.0	1.2	SOT143	VHF
BF992R	20	40	–	–	1.3	20	4.0	2.0	1.2	SOT143R	VHF
BF994S	20	30	4	20	2.5	15	2.5	1.0	1.0	SOT143	VHF
BF996S	20	30	4	20	2.5	15	2.3	0.8	1.8	SOT143	UHF
BF997	20	30	2	20	2.5	15	2.5	1.0	1.0	SOT143	VHF
BF998	12	30	2	18	2.5	24[4]	2.1	1.05	1.0	SOT143	VHF/UHF
BF998R	12	30	2	18	2.5	24[4]	2.1	1.05	1.0	SOT143R	VHF/UHF
BF998WR	12	30	2	18	2.5	24[4]	2.1	1.05	1.0	SOT343R	VHF/UHF
BF1100	14	30	–	–	−1	22	2.2	1.1	2.0	SOT143	VHF/UHF
BF1100R	14	30	–	–	−1	22	2.2	1.1	2.0	SOT143R	VHF/UHF
BF1100WR	14	30	–	–	−1	22	2.2	1.1	2.0	SOT343R	VHF/UHF

---

[1] at 1 kHz

[2] enhancement types

[3] with internal biasing circuit; for 5 V applications

[4] typical value

VARIABLE-CAPACITANCE DIODES

type number	C_d (pF)	@ V_R (V)	tuning range C_d ratio	over voltage range V_1 (V)	to V_2 (V)	r_s max. (Ω)	matched sets $\Delta \frac{Cmax}{Cmin}$ <3%	package
Automatic frequency control								
BB119	15.3-19.0	10	>1.3	4	10	1.5	no	DO-35
BB417	2.2-2.4	15	2-5	4	15	1.2	no	DO-34
AM radio tuning								
BB112	17-29	8.5	>18	1	8.5	1.5	yes	SOD69
BB130	12-21	28	>23	1	28	2.0	yes	SOD69
BB212⁽¹⁾	<22	8	>22.5	0.5	8	2.5	no	TO-92
FM radio tuning								
BB204B⁽¹⁾	14.0 typ.	30	2.5-2.8	3	30	0.4	no	TO-92
BB804⁽¹⁾	42-47.5	8	1.65-1.75	2	8	0.25 typ.	no	SOT23
VHF tuning								
BB132	2.3-2.75	28	24-30	0.5	28	2.0	yes <1%	SOD323
BB133	2.2-2.6	28	14-21	0.5	28	0.9	yes <0.7%	SOD323
BB148	2.4-2.75	28	>14.5	1	28	0.9	yes	SOD323
BB150	2.2-2.6	28	14-21	0.5	28	0.9	no	SOD323
BB158	2.4-2.75	28	>14.5	1	28	0.9	no	SOD323
BB619	2.4-2.9	28	>12.5	1	28	0.7 typ.	yes	SOD123
BB620	2.9-3.4	28	19.5-25	1	28	1.3 typ.	yes	SOD123
BB809	4.0-5.0	28	8-10	1	28	0.6	yes	DO-34
BB901	<1.055	28	>12	0.5	28	3.0	no	SOT23
BB909A	2.6-3.0	28	12-15	1	28	0.9	yes	DO-34
BB909B	2.8-3.2	28	12-15	1	28	0.9	yes	DO-34
BB910	2.3-2.7	28	>14	0.5	28	1.0	yes	DO-34
BB911/A	2.4-2.9	28	23.3-28.4	0.5	28	2.0	yes	DO-34
BBY40	4.3-6.0	28	5-6.5	3	25	0.7	no	SOT23
BBY42	2.4-3.0	28	12-16	1	28	1.0	no	SOT23
UHF tuning								
BB134	1.7-2.1	28	8.9-12	0.5	28	0.75	yes <0.5%	SOD323
BB135	1.7-2.1	28	8.9-12	0.5	28	0.75	no	SOD323
BB149	1.9-2.25	28	8.2-10	1	28	0.75	yes	SOD323
BB159	1.9-2.25	28	8.2-10	1	28	0.75	no	SOD323
BB215	1.8-2.2	28	>7.6	1	28	0.63 typ.	yes	SOD80
BB405B	1.8-2.2	28	>7.6	1	28	0.75	yes	DO-34
BB515	1.85-2.25	28	8-9.6	1	28	0.5 typ.	yes	SOD123
BBY31	1.6-2.0	28	8.3 typ.	1	28	1.2	no	SOT23
BBY39⁽²⁾	1.6-2.0	28	8.3 typ.	1	28	1.2	no	SOT23
BBY62⁽¹⁾	1.6-2.0	28	8.3 typ.	1	28	1.2	no	SOT143
SHF/SAT-TV tuning								
BB811	0.85-1.2	28	7.8-9.5	1	28	1.45	yes	SOD123
Coupling								
BB131	0.7-1.055	28	12-16	0.5	28	3.0	no	SOD323
BB901	<1.055	28	>12	–	28	3.0	no	SOT23

1) double diode
2) common-cathode double diode

SCHOTTKY-BARRIER DIODES

AM BAND-SWITCHING DIODES

type number	r_D max (Ω)	@ I_F (mA)	and f (MHz)	C_d max (pF)	@ V_R (V)	and f (MHz)	V_R max (V)	I_F max (mA)	package
BA423A	1.2	10	1	2.5	3	1	20	50	DO-34
BA423AL	1.2	10	1	2.5	3	1	20	50	SOD80

RF BAND-SWITCHING DIODES

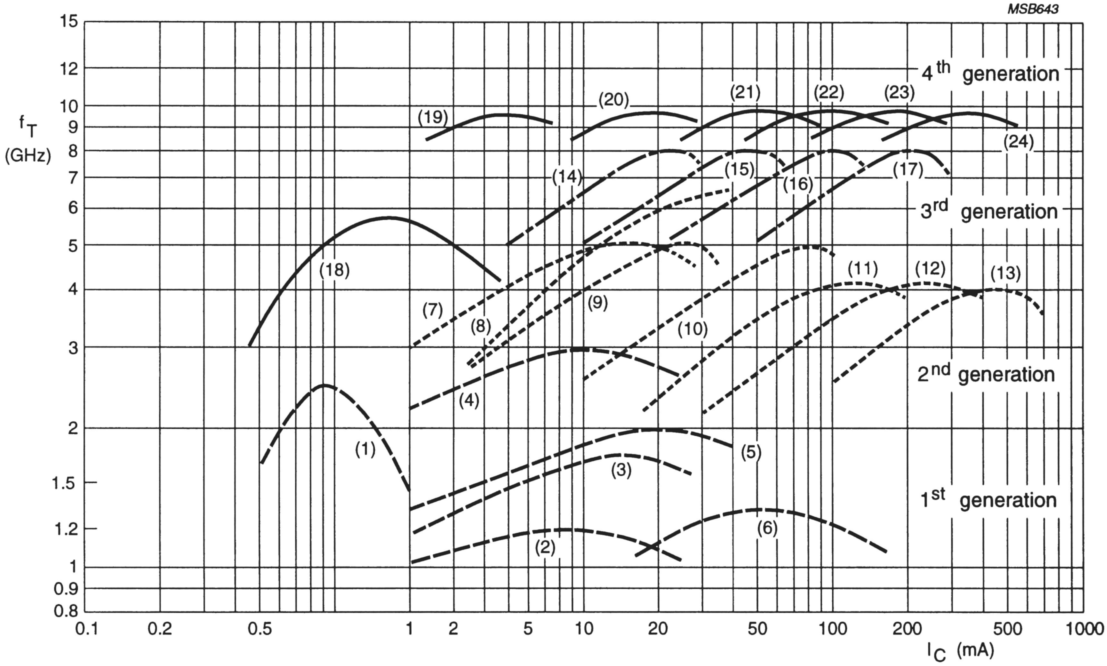
type number	r_D max (Ω)	@ I_F (mA)	and f (MHz)	C_d max (pF)	@ V_R (V)	and f (MHz)	V_R max (V)	I_F max (mA)	package
VHF applications									
BA482	0.7	3	200	1.2	3	100	35	100	DO-34
BA483	1.2	3	200	1.0	3	100	35	100	DO-34
BA484	1.2	3	200	1.6	3	100	35	100	DO-34
BA582	0.7	3	200	1.1	3	100	35	100	SOD123
BA682	0.7	3	200	1.25	3	1	35	100	SOD80
BA683	1.2	3	200	1.2	3	1	35	100	SOD80
BA792	0.7	3	200	1.1	3	100	35	100	SOD110
BAT18	0.7	5	200	1.0	20	1	35	100	SOT23

UHF MIXING DIODES

type number	V_F max (mV)	@ I_F (mA)	r_s max (Ω)	@ I_F (mA)	and f (kHz)	C_d (pF)	@ V_R (V)	V_R max (V)	I_F max (mA)	package
BA481	450	1	13	5	1	1.1	0	4	30	DO-34

WIDEBAND TRANSISTORS – SELECTION CHART

The chart below shows four generations of wideband transistors, and combined with tables on the next pages, serves as a quick selection guide for the circuit designer. Suitable line-ups can also be derived from the chart. All values of transition frequency (f_T), and collector current (I_C), are typical.



Transition frequency (f_T) as a function of collector current (I_C) for each of the four generations of RF bipolar wideband transistors

FIRST-GENERATION NPN WIDEBAND TRANSISTORS (f_T up to 3.5 GHz)

f_T/I_C curve see chart	package					
	plastic, leaded	surface-mount				
	SOT54 (TO92)	SOT23	SOT89	SOT143	SOT223	SOT323
(1)		BFT25				
(2)		BF747 BF547				BF547W
(3)	BF689K BF763	BFS17				BFS17W
(4)		BFS17A		BFG17A		
(5)		BFR53				
(6)			BFQ17		BFG16A	

FIRST-GENERATION NPN WIDEBAND TRANSISTORS (f_T up to 3.5 GHz) *continued*

type number	ratings			typical characteristics					package
	V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (GHz)	F (dB)	@ f (MHz)	G_{UM} (dB)	@ f (MHz)	
BF547	20	50	300	1.2	–	–	20	100	SOT23
BF547W	20	50	300	1.2	–	–	20	100	SOT323
BF689K	15	25	360	1.8	3	200	16	200	TO-92
BF747	20	50	300	1.2	–	–	20	100	SOT23
BF763	25	25	360	1.8	–	800	13	800	TO-92
BFG16A	25	150	1000	1.5	–	–	10	500	SOT223
BFG17A	15	50	300	2.8	2.5	800	15	800	SOT143
BFQ17	25	150	1000	1.5	–	–	16 (6.5)	200.(800)	SOT89
BFR53	10	50	250	2.0	5	500	22 (10.5)	200.(800)	SOT23
BFR94A	25	150	3500	3.5	5	500	13.5	500	SOT122E
BFR95	25	150	1500	3.5	9	200	13.5	500	TO-39
BFS17	15	25	300	1.6	4.5	500	–	–	SOT23
BFS17A	15	25	300	2.8	2.5	800	13.5	800	SOT23
BFS17W	15	50	300	1.6	–	–	–	–	SOT323
BFT25	5	6.5	30	2.3	3.8	500	18	500	SOT23
BFW16A	25	300	1500	1.2	<6	200	16[1](6.5[1])	200	TO-39
BFW30	10	100	250	1.6	<5	500	21 (7.5)	200	TO-72
BFY90	15	50	200	1.4	2.5 (5.5)	200.(800)	23[1](8[1])	200.(800)	TO-72

[1] G_p

values in parentheses are measured at 800 MHz

SECOND-GENERATION WIDEBAND TRANSISTORS (f_T up to 6 GHz)

f_T/I_C curve see chart	pol.	package							
		ceramic		surface-mount					
		SOT122	SOT173	SOT23	SOT89	SOT143	SOT223	SOT323	SOT343
(7)	npn			BFR92(A)		BFG92A(/X)(/XR)		BFR92AW	BFG92AW(/X)(/XR)
	pnp			BFT92				BFT92W	
(8)	npn		BFP91A	BFR93(A)		BFG93A(/X)(/XR)	BFG94	BFR93AW	BFG93AW(/X)(/XR)
(9)	pnp			BFT93				BFT93W	
(10)	npn		BFP96	BFR106	BFQ19		BFG97		
	pnp				BFQ149		BFG31		
(11)	npn				BFQ18A		BFG35		
(11)	npn	BFQ34							
(12)	npn	BFQ68							
(13)	npn	BFQ136							

SECOND-GENERATION WIDEBAND TRANSISTORS (f_T up to 6 GHz) *continued*

type number	polarity	ratings			typical characteristics						package
		V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (GHz)	linear 1) V_{out} (mV)	F (dB)	@ f (MHz)	G_{UM} (dB)	@ f (MHz)	
BFG31	pnp	15	100	1000	5	600	–	–	12	800	SOT223
BFG35	npn	18	150	1000	4	750	–	–	11	800	SOT223
BFG92A	npn	15	25	400	5	–	2.1	1000	17	1000	SOT143
BFG92A/X	npn	15	25	400	5	–	2.4	800	17.5	800	SOT143
BFG92A/XR	npn	15	25	400	5	–	2.4	800	17.5	800	SOT143
BFG93A	npn	12	35	300	6	–	1.9	1000	16	1000	SOT143
BFG93A/X	npn	12	35	300	6	–	2.3	800	17	800	SOT143
BFG93A/XR	npn	12	35	300	6	–	2.3	800	17	800	SOT143
BFG94	npn	12	60	700	6	500	3	1000	13.5	1000	SOT223
BFG97	npn	15	100	1000	5.5	700	3.7	800	12	800	SOT223
BFP91A	npn	12	50	600	6	425	2.3	800	18.5	800	SOT173
BFP96	npn	15	100	1000	5	700	3.7	800	15	800	SOT173
BFQ18A	npn	18	150	1000	4	700	–	–	–	–	SOT89
BFQ19	npn	15	100	1000	5.5	700	3.3	500	11.5	500	SOT89
BFQ24	pnp	12	35	250	5	300	2.4	500	15	500	TO-72
BFQ34	npn	18	150	2700	4	1200	8	500	16.3	500	SOT122
BFQ52	pnp	15	25	250	5	150	2.7	500	17	500	TO-72
BFQ53	npn	15	25	250	5	150	2.1	1000	18	500	TO-72

---

1) at a d_{im} of −60 dB, measured according to DIN45004B par. 6.3: 3-tone test

SECOND-GENERATION WIDEBAND TRANSISTORS (f_T up to 6 GHz) *continued*

	polarity	ratings			typical characteristics						
		V_{CEO}	I_C	P_{tot}	f_T	linear[1] V_{out}	F	@ f	G_{UM}	@ f	
type number		(V)	(mA)	(mW)	(GHz)	(mV)	(dB)	(MHz)	(dB)	(MHz)	package
BFQ63	npn	15	75	250	5	500	2.3	500	11.5	500	TO-72
BFQ68	npn	18	300	4500	4	1600	–	–	13	800	SOT122A
BFQ136	npn	18	600	9000	4	2500	–	–	12.5	800	SOT122A
BFQ149	pnp	15	100	1000	5	–	3.75	500	12	500	SOT89
BFR92	npn	15	25	300	5	150	2.4	500	18	800	SOT23
BFR92A	npn	15	25	300	5	150	2.1	1000	14	1000	SOT23
BFR92AW	npn	15	25	300	5	–	2.0	1000	14	1000	SOT323
BFR93	npn	12	35	300	5	425	1.9	500	16.5	500	SOT23
BFR93A	npn	12	35	300	6	425	1.9	1000	13	1000	SOT23
BFR93AW	npn	12	35	300	6	–	1.5	1000	13	1000	SOT323
BFR106	npn	15	100	500	5	350	3.5	800	11.5	800	SOT23
BFT92	pnp	15	25	300	5	150	2.5	500	18	500	SOT23
BFT92W	pnp	15	35	300	5	–	2.5	500	17	500	SOT323
BFT93	pnp	12	35	300	5	300	2.4	500	16.5	500	SOT23
BFT93W	pnp	12	50	300	5	–	2.4	500	15.5	500	SOT323

[1] at a d_{im} of −60 dB, measured according to DIN45004B par. 6.3: 3-tone test

SECOND-GENERATION NPN WIDEBAND TRANSISTORS (f_T up to 7 GHz) *continued*

	ratings			typical characteristics							
type	V_{CEO}	I_C	P_{tot}	f_T	F	G_{UM}	@ f	F	G_{UM}	@ f	
number	(V)	(mA)	(mW)	(GHz)	(dB)	(dB)	(MHz)	(dB)	(dB)	(MHz)	package
BFG92AW	15	25	500	6	2.1	15.5	1000	3	10	2000	SOT343
BFG92AW/X	15	25	500	6	2.1	15.5	1000	3	10	2000	SOT343
BFG92AW/XR	15	25	500	6	2.1	15.5	1000	3	10	2000	SOT343R
BFG93AW	12	35	500	7	2	14.5	1000	3	9	2000	SOT343
BFG93AW/X	12	35	500	7	2	14.5	1000	3	9	2000	SOT343
BFG93AW/XR	12	35	500	7	2	14.5	1000	3	9	2000	SOT343R

THIRD-GENERATION NPN WIDEBAND TRANSISTORS (f_T up to 8 GHz)

f_T/I_C curve see chart	package						
	ceramic						
	SOT172	SOT173	SOT23	SOT143	SOT223	SOT323	SOT343
(14)		BFQ66	BFQ67	BFG67(/X)(/XR)		BFQ67W	BFG67W(/X)(/XR)
(15)				BFG197(/X)(/XR)	BFG198		BFG197W(/X)(/XR)
(16)	BFQ135				BFG135		
(17)	BFQ270						

THIRD-GENERATION NPN WIDEBAND TRANSISTORS (f_T up to 8 GHz) *continued*

	ratings			typical characteristics					
type number	V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (GHz)	F @ 2 GHz (dB)	G_{UM} @ 2 GHz (dB)	V_{CE} (V)	I_C (mA)	package
BFG67	10	50	380	8	2.2	10.9	8	15	SOT143
BFG67/X	10	50	380	8	2.2	10.9	8	15	SOT143
BFG67/XR	10	50	380	8	2.2	10.9	8	15	SOT143
BFG135	15	150	1000	7	–	12.[1]	10	100	SOT223
BFG197	10	100	350	7.5	1.4[1]	10	6	50	SOT143
BFG197/X	10	100	350	7.5	1.4[1]	10	6	50	SOT143
BFG197/XR	10	100	350	7.5	1.4[1]	10	6	50	SOT143
BFG198	10	100	1000	8	–	15.[1]	8	50	SOT223
BFQ66	10	50	350	8	2.7	11.5	8	15	SOT173
BFQ67	10	50	300	8	2.2	8	8	15	SOT23
BFQ67W	10	50	300	8	2.7	8	8	15	SOT323
BFQ135	19	150	2700	6.5	–	13.5[1]	18	120	SOT172
BFQ270	19	500	10000	6	–	10	18	240	SOT172

[1] at 800 MHz

THIRD-GENERATION NPN WIDEBAND TRANSISTORS (f_T up to 8 GHz) *continued*

	ratings			typical characteristics							
type number	V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (GHz)	F (dB)	G_{UM} (dB)	@ f (MHz)	F (dB)	G_{UM} (dB)	@ f (MHz)	package
BFG67W	10	50	500	7.5	1.7	15.5	1000	2.2	10	2000	SOT343
BFG67W/X	10	50	500	7.5	1.7	15.5	1000	2.2	10	2000	SOT343
BFG67W/XR	10	50	500	7.5	1.7	15.5	1000	2.2	10	2000	SOT343R
BFG197W	10	100	500	7.5	2.4	14	1000	3.5	9	2000	SOT343
BFG197W/X	10	100	500	7.5	2.4	14	1000	3.5	9	2000	SOT343
BFG197W/XR	10	100	500	7.5	2.4	14	1000	3.5	9	2000	SOT343R

FOURTH-GENERATION NPN WIDEBAND TRANSISTORS (f_T up to 10 GHz)

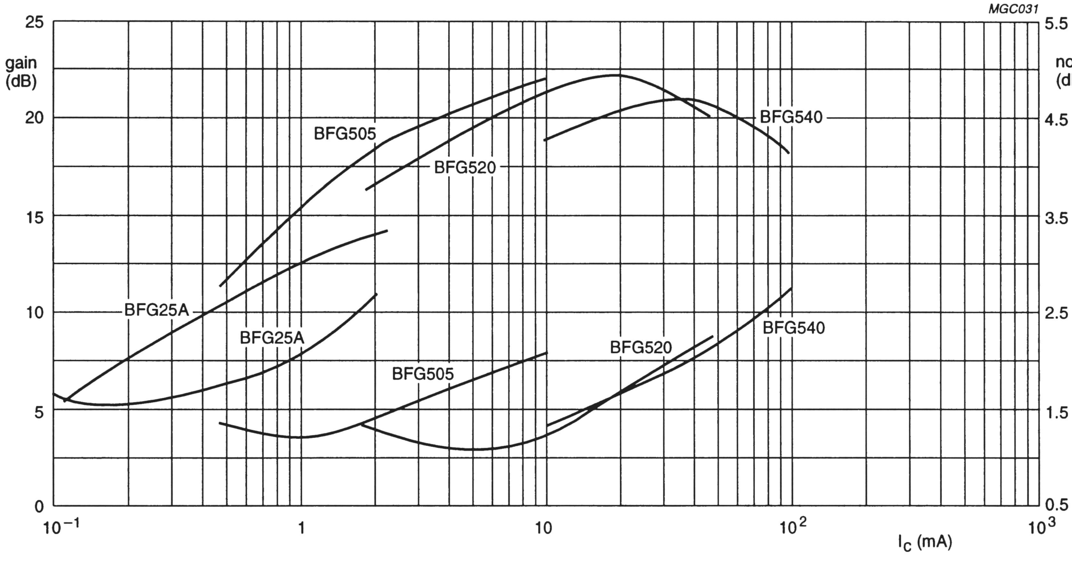
f_T/I_C curve see chart	package							
	ceramic	surface-mount						
	SOT172	SOT23	SOT143	SOT223	SOT323	SOT343	SOT353	SOT363
(18)		BFT25A	BFG25A/X		BFS25A	BFG25AW(/X)(/XR)		
(19)		BFR505	BFG505(/X)(/XR)		BFS505	BFG505W(/X)(/XR)	BFC505 BFE505	BFM505
(20)		BFR520	BFG520(/X)(/XR)		BFS520	BFG520W(/X)(/XR)	BFC520 BFE520	BFM520
(21)		BFR540	BFG540(/X)(/XR)	BFG541	BFS540	BFG540W(/X)(/XR)	BFC540 BFE540	BFM540
(22)			BFG590(/X)(/XR)	BFG591		BFG590W(/X)(/XR)		
(23)	BFQ621		BFG10(/X)			BFG10W/X		
(24)			BFG11(/X)			BFG11W/X		

FOURTH-GENERATION NPN WIDEBAND TRANSISTORS (f_T UP TO 10 GHz) *continued*

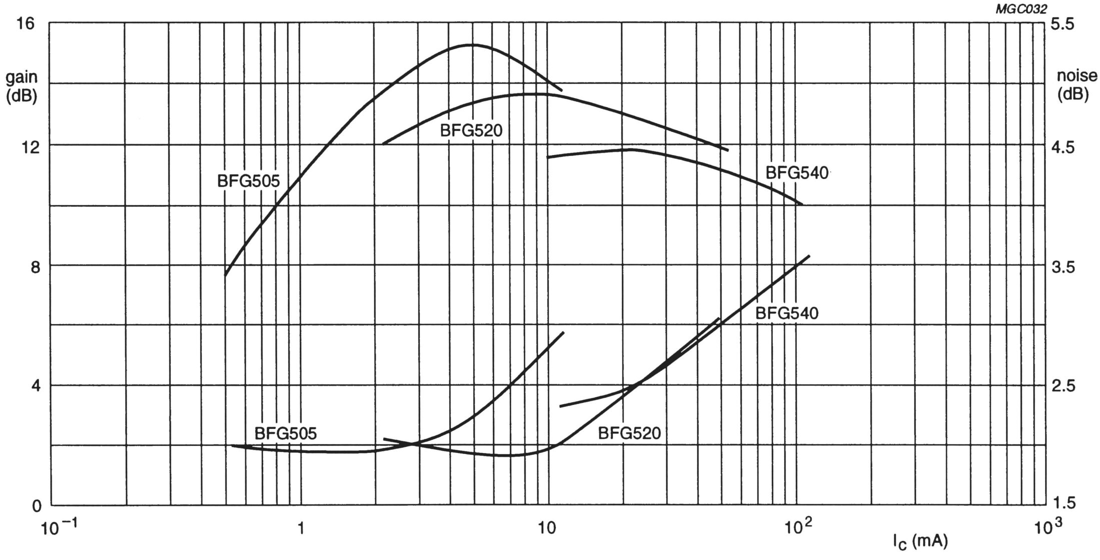
	ratings			typical characteristics							
type number	V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (GHz)	F (dB)	G_{UM} (dB)	@ f (MHz)	F (dB)	G_{UM} (dB)	@ f (MHz)	package
BFG25A/X	5	6.5	32	5	1.8	18	1000			2000	SOT143
BFG505	15. 2)	18	150	9	1.6	20	900	1.9	13	2000	SOT143
BFG505/X	15. 2)	18	150	9	1.6	20	900	1.9	13	2000	SOT143
BFG505/XR	15. 2)	18	150	9	1.6	20	900	1.9	13	2000	SOT143
BFG520	15	70	300	9	1.6	19	900	1.9	13	2000	SOT143
BFG520/X	15	70	300	9	1.6	19	900	1.9	13	2000	SOT143
BFG520/XR	15	70	300	9	1.6	19	900	1.9	13	2000	SOT143
BFG540	15. 2)	120	500	9	1.9	18	900	2.1	11	2000	SOT143
BFG540/X	15. 2)	120	500	9	1.9	18	900	2.1	11	2000	SOT143
BFG540/XR	15. 2)	120	500	9	1.9	18	900	2.1	11	2000	SOT143
BFG541	15. 2)	120	650	9	1.9	15	900	2.1	9	2000	SOT223
BFG590	15	200	300	5		13	1000		7.5	2000	SOT143
BFG590/X	15	200	400	5		13	900		7.5	2000	SOT143
BFG590/XR	15	200	400	5		13	900		7.5	2000	SOT143
BFG591	15	200	2000	7		13	900		7.5	2000	SOT223
BFQ540	12	120	950	9	1.3	13	900				SOT89
BFQ621	16	150	800	7		18.5	500				SOT172
BFR505	15. 2)	18	150	9	1.6	17	900	1.9	10	2000	SOT23
BFR520	15. 2)	70	300	9	1.6	15	900	1.9	9	2000	SOT23
BFR540	15. 2)	120	500	9	1.9	14	900	2.1	7	2000	SOT23
BFS25A	5	6.5	32	5	1.8	13	1000			2000	SOT323
BFS505	15. 2)	18	150	9	1.6	17	900	1.9	10	2000	SOT323
BFS520	15. 2)	70	300	9	1.6	15	900	1.9	9	2000	SOT323
BFS540	15	120	500	9	1.9	14	900	2.1	8	2000	SOT323
BFT25A	5	6.5	32	5	1.8	15	1000			2000	SOT23

---

2) V_{CES} i.s.o. V_{CEO}



Typical gain and noise versus current consumption at 900 MHz



Typical gain and noise versus current consumption at 1.9 GHz

FOURTH-GENERATION NPN WIDEBAND TRANSISTORS (f_T UP TO 10 GHz) *continued*

	ratings			typical characteristics							
type number	V_{CEO} (V)	I_C (mA)	P_{tot} (mW)	f_T (GHz)	F (dB)	G_{UM} (dB)	@ f (MHz)	F (dB)	G_{UM} (dB)	@ f (MHz)	package
BFG25AW	5	6.5	500	5	2.0	16	1000	2.1	8	2000	SOT343
BFG25AW/X	5	6.5	500	5	2.0	16	1000	2.1	8	2000	SOT343
BFG25AW/XR	5	6.5	500	5	2.0	16	1000	2.1	8	2000	SOT343R
BFG520W	15	70	500	9	1.6	17	900	1.85	11	2000	SOT343
BFG520W/X	15	70	500	9	1.6	17	900	1.85	11	2000	SOT343
BFG520W/XR	15	70	500	9	1.6	17	900	1.85	11	2000	SOT343R
BFG540W	15. 1)	120	500	9	1.9	16	900	2.1	10	2000	SOT343
BFG540W/X	15. 1)	120	500	9	1.9	16	900	2.1	10	2000	SOT343
BFG540W/XR	15. 1)	120	500	9	1.9	16	900	2.1	10	2000	SOT343R
BFG505W	15. 1)	18	500	9	1.6	19	900	1.9	12	2000	SOT343
BFG505W/X	15. 1)	18	500	9	1.6	19	900	1.9	12	2000	SOT343
BFG505W/XR	15. 1)	18	500	9	1.6	19	900	1.9	12	2000	SOT343R
BFG590W	15. 1)	200	500	5		13	900		7.5	2000	SOT343
BFG590W/X	15. 1)	200	500	5		13	900		7.5	2000	SOT343
BFG590W/XR	15. 1)	200	500	5		13	900		7.5	2000	SOT343R
BFG10	8	250	250			7.5)	1900		7. 3)	2000	SOT143
BFG10/X	8	250	250			7.5)	1900		7. 3)	2000	SOT143
BFG11	8	500	400			5.5)	1900		5. 3)	2000	SOT143
BFG11/X	8	500	400			5.5)	1900		5. 3)	2000	SOT143
BFG10W/X	10	250	400			10. 3)	900		7. 3)	2000	SOT343
BFG11W/X	8	500	630			6.5)	1900		6. 3)	2000	SOT343
BFC5054)	15. 1)	18	500	6	1.6	21. 2)	900	2.4	22. 2)	2000	SOT353
BFC5204)	15. 1)	70	1000	7	1.3	33. 2)	900	2.4	19. 2)	2000	SOT353
BFC5404)	15. 1)	120	1000	9	1.6	31.52)	900	2.9	16.52)	2000	SOT353
BFE5054)	15. 1)	18	500	9	1.2	17. 2)	900	1.9	10. 2)	2000	SOT353
BFE5204)	15. 1)	70	1000	9	1.1	16. 2)	900	1.9	9. 2)	2000	SOT353
BFE5404)	15. 1)	120	1000	9	1.3	13. 2)	900	1.9	7.52)	2000	SOT353
BFM5054)	15. 1)	18	500	9	1.2	17	900	1.9	10	2000	SOT363
BFM5204)	15. 1)	70	1000	9	1.6	15	900	1.9	9	2000	SOT363
BFM5404)	15. 1)	120	1000	9	1.9	14	900	2.1	7	2000	SOT363
PBR9414)	10	50	250	8	1.3	16	1000	2.2	10	2000	SOT23
PBR9514)	10	100	325	8	1.3	17	1000	2.2	11	2000	SOT23
PRF9474)	10	50	400	8	1.5	14.8	1000	2.2	11.6	2000	SOT323
PRF9574)	10	100	475	8	1.7	14	1000	2.2	8	2000	SOT323

1) V_{CES} i.s.o. V_{CEO}
2) MSG i.s.o. G_{UM}
3) G_P i.s.o. G_{UM}
4) in development
5) power gain G_p

WIDEBAND TRANSISTORS FOR HIGH-SPEED SWITCHING APPLICATIONS

type number	polarity	ratings V_{CEO} (V)	 I_C (mA)	 P_{tot} (mW)	f_T (GHz)	package
BSR12	pnp	15	200	250	1.5	SOT23
MPSH10	npn	25	40	1000	0.65	TO-92
PMBTH10	npn	25	40	400	0.65	SOT23
PMBTH81	pnp	20	40	400	0.6	SOT23

WIDEBAND TRANSISTORS FOR APPLICATION IN VIDEO OUTPUT AMPLIFIERS IN MONITORS

		package			
application	I_{CM} (mA)	SOT54 (TO-92)	SOT32 (TO-126)	SOT128 (TO-202)	SOT223
npn cascode driver	500	BFQ161	BFQ162		BFQ166
npn cascode output	100	BFQ221	BFQ222	BFQ225	
	300		BFQ232	BFQ235	
	300		BFQ232A	BFQ235A	
	400		BFQ262	BFQ265	
	400		BFQ262A	BFQ265A	
npn buffer	100	BFQ221	BFQ222	BFQ225	BFQ226
	150	BFQ131			
	300	BFQ231	BFQ232	BFQ235	BFQ236
	300	BFQ231A	BFQ232A	BFQ235A	BFQ236A
pnp buffer	100	BFQ241	BFQ242	BFQ245	BFQ246
	300	BFQ251	BFQ252	BFQ255	BFQ256
	300	BFQ251A	BFQ252A	BFQ255A	BFQ256A

WIDEBAND TRANSISTORS FOR APPLICATION IN VIDEO OUTPUT AMPLIFIERS IN MONITORS *continued*

type number	V_{CBO} max (V)	V_{CEO} max (V)	I_C max (mA)	h_{FE} min	C_{cb} max (pF)	T_j (°C)	f_T min (MHz)	envelope
BFQ131	25	18	150	25	1.2 2)	175	4000	SOT54
BFQ161	20	10	500	25	4.3	150	1000	SOT54
BFQ221	100	95. 1)	100	20	1.7 2)	150	1000	SOT54
BFQ231	100	65	300	20	1.8	150	1000	SOT54
BFQ231A	115	95	300	20	1.8	150	800	SOT54
BFQ241	−100	−95. 1)	−100	20	1.7 2)	150	1000	SOT54
BFQ251	−100	−65	−300	20	2.0	150	1000	SOT54
BFQ251A	−115	−95	−300	20	2.0	150	800	SOT54
BFQ162	20	10	500	40	4.2	175	1000	SOT32
BFQ222	100	95. 1)	100	20	1.7 2)	175	1000	SOT32
BFQ232	100	65	300	20	2.0	175	1000	SOT32
BFQ232A	115	95	300	20	2.0	175	800	SOT32
BFQ242	−100	−95. 1)	−100	20	1.7 2)	175	1000	SOT32
BFQ252	−100	−65	−300	20	2.5	175	1000	SOT32
BFQ252A	−115	−95	−300	20	2.5	175	800	SOT32
BFQ262	100	65	400	50	2.0	175	1000	SOT32
BFQ262A	115	95	400	20	2.0	175	800	SOT32
BFQ225	100	95. 1)	100	20	1.7 2)	175	1000	SOT128
BFQ235	100	65	300	20	2.0	175	1000	SOT128
BFQ235A	115	95	300	20	2.0	175	800	SOT128
BFQ245	−100	−95. 1)	−100	20	1.7 2)	175	1000	SOT128
BFQ255	−100	−65	−300	20	2.0	175	1000	SOT128
BFQ255A	−115	−95	−300	20	2.0	175	800	SOT128
BFQ265	100	65	400	50	2.5	175	1000	SOT128
BFQ265A	115	95	400	20	2.5	175	800	SOT128
BFQ166	20	10	500	50	3.2	175	1000	SOT223
BFQ226	100	95. 1)	100	20	1.7 2)	175	1000	SOT223
BFQ236	100	65	300	20	1.5	175	1000	SOT223
BFQ236A	115	95	300	20	1.5	175	800	SOT223
BFQ246	100	95. 1)	100	20	1.7 2)	175	1000	SOT223
BFQ256	−100	−65	−300	20	1.6	175	1000	SOT223
BFQ256A	−115	−95	−300	20	1.6	175	800	SOT223

---

1) V_{CER} (R_{BE} = 100 Ω) 2) C_{re}

BIPOLAR RF TRANSMITTING TRANSISTORS

HF SINGLE SIDEBAND (1.5 - 30 MHz) BIPOLAR TRANSISTORS

- Very wide range of devices with supply voltages ranging from 12 V up to 50 V
- Class A and Class AB operation
- Wide choice of envelopes

type number	load power PEP (W)	power gain (dB)	supply voltage V_{CE} (V)	package
Class A intermodulation distortion: d_3, d_5 < −40 dB				
BLV10	1	18	12	SOT123
BLY87C	1	18	12	SOT120
BLY87C/01	1	18	12	SOT122F
BLV20	1.3	20	26	SOT123
BLY91C	1.3	20	26	SOT120
BLY91C/01	1.3	20	26	SOT122F
BLV11	2	18	12	SOT123
BLY88C	2	18	12	SOT120
BLY88C/01	2	18	12	SOT122F
BLV21	2.5	20	26	SOT123
BLY92C	2.5	20	26	SOT120
BLY92C/01	2.5	20	26	SOT122F
BLW87	6	18	12	SOT123
BLY89C	6	18	12	SOT120
BLX13	8	18	26	SOT56
BLX13C	8	20	26	SOT120
BLW83	10	20	26	SOT123
BLX39	15	20	26	SOT120
BLW50F	16	19.5	45	SOT123
BLW86	17	22	26	SOT123
BLW78	35	19.5	26	SOT123
BLW96	50	19	40	SOT121

HF SINGLE SIDEBAND (1.5 - 30 MHz) BIPOLAR TRANSISTORS *continued*

type number	load power PEP (W)	power gain (dB)	supply voltage V_{CE} (V)	package
Class AB intermodulation distortion: d_3, d_5 < −30 dB				
BLV11	10	18	13.5	SOT123
BLY88C	10	18	13.5	SOT120
BLY88C/01	10	18	13.5	SOT122F
BLV21	10	20	28	SOT123
BLY92C	10	20	28	SOT120
BLY92C/01	10	20	28	SOT122F
BLW87	15	18	13.5	SOT123
BLY89C	15	18	13.5	SOT120
BLW83	25	20	28	SOT123
BLX13	25	18	28	SOT56
BLX13C	25	20	28	SOT120
BLW85	30	19.5	12.5	SOT123
BLW60C	30	19.5	12.5	SOT120
BLX39	37.5	19	28	SOT120
BLW86	42.5	19	28	SOT123
BLX14	50	13	28	SOT55
BLW50F	65	18	50	SOT123
BLW99	80	12.5	12.5	SOT121
BLW76	80	13	28	SOT121
BLW78	100	19	28	SOT121
BLW77	130	12	28	SOT121
BLX15	150	14	50	SOT55
BLW95	160	14	50	SOT121
BLW97	175	11.5	28	SOT121
BLW96	200	13.5	50	SOT121

VHF 25 - 175 MHz BIPOLAR TRANSISTORS

type number	load power @ 175 MHz (W)	power gain @ 175 MHz (dB)	supply voltage (V)	package
Class B 7.5 - 9.6 V supply voltage (portable)				
2N4427	0.7	8	7.5	TO-39/1
BFQ42	1.5	8.4	7.5	TO-39/1
BFQ43	3	9.4	7.5	TO-39/3
BLW29	9	7.4	7.5	SOT120
Class B 12.5 - 13.5 V supply voltage (car mobile)				
2N4427	1	10	12.5	TO-39/1
BFQ42	2	11	13.5	TO-39/1
BLW79	2	13.5	12.5	SOT122
BFQ43	4	12	13.5	TO-39/3
BFQ43S	4	12	13.5	TO-39/3
BFS22A	4	8	13.5	TO-39/1
BLW80	4	8	12.5	SOT122
BLV10	8	9	13.5	SOT123
BLY87C/01	8	9	13.5	SOT122
BLY87C	8	12	13.5	SOT120
BLW81	10	13.5	12.5	SOT122
BLV11	15	8	13.5	SOT123
BLW29	15	10	13.5	SOT120
BLY88C/01	15	7.5	13.5	SOT122
BLY88C	15	8	13.5	SOT120
BLW87	25	6	13.5	SOT123
BLY89C	25	6	13.5	SOT120
BLW31	28	9	13.5	SOT120
BLW30	30	10	12.5	SOT120
BLV12	30	9	12.5	SOT123
BLW40	40	10	12.5	SOT120
BLW60C	45	5	12.5	SOT120
BLW85	45	4.5	12.5	SOT123
BLV45/12	45	6.5	12.5	SOT119
BLV75/12	75	6.5	12.5	SOT119

VHF 25 - 175 MHz BIPOLAR TRANSISTORS *continued*

type number	load power @ 175 MHz (W)	power gain @ 175 MHz (dB)	supply voltage (V)	package
Class B 28 V base stations				
2N3866	1	10	28	TO-39/1
2N3553	2.5	10	28	TO-39/1
BFS23A	4	10	28	TO-39/1
BLV20	8	12	28	SOT123
BLY91C	8	12	28	SOT120
BLY91C/01	8	12	28	SOT122F
BLV21	15	10	28	SOT123
BLY92C	15	10	28	SOT120
BLY92C/01	15	10	28	SOT122F
BLW84	25	9	28	SOT123
BLY93C	25	9	28	SOT120
BLW86	45	7.5	28	SOT123
BLX39	45	7.5	28	SOT120
BLY94	50	7	28	SOT55
BLV80/28	80	6.5	28	SOT121
BLW781)	100	6	28	SOT121
BLW772)	130	7.5	28	SOT121

---

1) load power and power gain measured at 150 MHz
2) load power and power gain measured at 87.5 MHz

UHF 400 - 512 MHz BIPOLAR TRANSISTORS

type number	load power @ 470 MHz (W)	power gain @ 470 MHz (dB)	supply voltage (V)	package
Class B 7.5 V supply; portable mobile				
BLT50	1.2	10	7.5	SOT223
BLT53	8	6	7.5	SOT122D
Class B 12.5 V supply; car mobile				
2N4427	0.4	10	12.5	TO-39/1
BLU56	1	12	12.5	SOT223
BLX65E	2	9	12.5	TO-39/3
BLX65ES	2	6	12.5	TO-39/3
BLX65	2	6	12.5	TO-39/1
BLW79	2	9	12.5	SOT122
BLU11/SL	2.5	10	12.5	SOT122D
BLW80	4	8	12.5	SOT122
BLU99	5	10.5	12.5	SOT122
BLU97	7	9	12.5	SOT122
BLW81	10	6	12.5	SOT122
BLU20/12	20	6.5	12.5	SOT119
BLU30/12	30	6.0	12.5	SOT119
BLU45/12	45	4.8	12.5	SOT119
BLU60/12	60	4.4	12.5	SOT119
Class B 28 V base stations				
2N3866	1	10	28	TO-39/1
BLW89	2	12	28	SOT122
BLW90	4	11	28	SOT122
BLX93A	7	8.5	28	SOT48/3
BLW91	10	9	28	SOT122
BLX94C	25	6.5	28	SOT122
BLU60/28	60	7	28	SOT119

SHF 900 MHz BIPOLAR TRANSISTORS

type number	load power @ 900 MHz (W)	power gain @ 900 MHz (dB)	supply voltage (V)	package
Class AB 3.6 - 6 V portable analog cellular				
BLT61	1.2	10. (typ)	3.6	SOT96
BLT70	0.8	6	4.8	SOT223
BLT71	1.2	6	4.8	SOT223
Class A 3.6 - 6 V portable analog cellular				
BLT80	0.8	6	6	SOT223
BLT81	1.2	6	6	SOT223
Class AB 4.8 - 6 V portable digital cellular				
BLT82	3.5 pulsed	9. (typ)	6	SOT96
BLT72	3.0 pulsed	9. (typ)	4.8	SOT96
Class B 7.5 - 9.6 V portable mobile				
BFR90A	0.075	7.5	7.5	SOT37
BFR91A	0.16	7	7.5	SOT37
BLT80	0.8	6	7.5	SOT223
BLV90	0.75	7	9.6	SOT172
BLT81	1.2	6	7.5	SOT223
BLV91/SL	1.5	6.6	9.6	SOT172D
BLV92	3	7.3	9.6	SOT171
BLT91/SL	1.5	7.5	7.5	SOT172D
BLT92/SL	3	7	7.5	SOT122D
BLT93/SL	6	5.5	7.5	SOT122D
Class B 12.5 V car mobile				
BLU86	1	7	12.5	SOT223
BLV90	1	7.5	12.5	SOT172
BLV91/SL	2	6.5	12.5	SOT172D
BLU99	4	7	12.5	SOT122
BLU99/SL	4	7	12.5	SOT122D
BLV92	4	7.5	12.5	SOT171
BLV93	8	6.5	12.5	SOT171
BLV193	12	6.5	12.5	SOT171
BLV194	16	6.0	12.5	SOT171
BLV95	22	5.5	12.5	SOT171

CLASS AB SHF 1.8 GHz BIPOLAR TRANSISTORS

type number	load power @ 1800 MHz (W)	power gain @ 1800 MHz (dB)	supply voltage (V)	package
BLT13	2.0	6	6	SOT96

SHF 900 - 960 MHz BIPOLAR TRANSISTORS

type number	load power @ 900 MHz (W)	power gain @ 900 MHz (dB)	efficiency (%)	supply voltage (V)	package
Class AB and class B 24 - 26 V base stations					
BLV99	2	9	55	24	SOT172
BLV99/SL	2	8	55	24	SOT172D
BLV902 1)2)	2	11	50	26	SOT409
BLV103 1)	4	11.5	45	24	SOT171
BLV904 1)2)	5	11	50	26	SOT409
BLV100 1)	8	8	50	24	SOT171
BLV909 1)2)	9	9	50	26	SOT409
BLV910 1)	10	11	55	26	SOT171
BLV98CE 1)	15	7.5	50	24	SOT171
BLV920 1)	20	10	55	26	SOT171
BLV945A	25	9	45	25	SOT324
BLV945B 1)	25	8.5	45	25	SOT324
BLV934 1)	30	9	55	26	SOT171
BLV935 1)	30	9	55	26	SOT273
BLV97CE 1)	35	7	50	24	SOT171
BLV946 1)	40	9	55	26	SOT273
BLV101A	50	8.5	48	26	SOT273
BLV101B 1)	50	7.5	46	26	SOT273
BLV956 1)	60	9	55	26	SOT273
BLV958 1)	75	8.5	50	26	SOT391
BLV948 1)	150	7.0	48	26	SOT262A2
BLV950 1)	150	8	45	26	SOT262A2

SHF 900 - 960 MHz BIPOLAR TRANSISTORS

type number	load power @ 1950 MHz (W)	power gain @ 1950 MHz (dB)	efficiency (%)	supply voltage (V)	package
Class AB 26 V base stations					
BLV2040 2)	1	8	40	26	SOT409
BLV2042 2)	4	8	40	26	SOT409
BLV2044 2)	15	7.5	40	26	FO229
BLV2045 2)	25	8	40	26	SOT390

---

1) load power and power gain measured at 960 MHz
2) preliminary specification

FM BROADCAST 87 - 108 MHz BIPOLAR TRANSISTORS

type number	load power @ 108 MHz (W)	power gain @ 108 MHz (dB)	supply voltage (V)	package
Class B				
2N3866	1.8	10	28	TO-39/1
BLW90	4	20	28	SOT122
BLV21	15	10	28	SOT123
BLW86 [1]	45	7.5	28	SOT123
BLX39	45	7.5	28	SOT120
BLV80/28	80	10	28	SOT121
BLW76	80	8	28	SOT121
BLW78	100	6	28	SOT121
BLV25	175	10	28	SOT119

---

[1] load power and power gain measured at 175 MHz

TV TRANSPOSERS/TRANSMITTER TRANSISTORS

type number	output power P_o sync (W)	d_{im} (dB)	output power (W) P_o–1dB	power gain @ 860 MHz (dB)	supply voltage (V)	package
Class A Bands I (41 - 68 MHz) & III (174 - 230 MHz)						
BLV30	1.5	–60	–	18	25	SOT122
BLV31	5	–58	–	15	25	SOT122
BLV32F	10	–55	–	16	25	SOT160
BLV33F	16	–55	–	13.5	25	SOT119
BLV33	19	–55	–	9	25	SOT147
Class AB Bands I (41 - 68 MHz) & III (174 - 230 MHz)						
BLV30	–	–	10	15	28	SOT122
BLV31	–	–	20	12	28	SOT122
BLV32F	–	–	30	13	28	SOT160
BLV33F	–	–	85	10.5	28	SOT119
BLV33	–	–	90	6.5	28	SOT147
BLV36	–	–	115	11	28	SOT161
Class A Bands IV & V 470 - 860 MHz						
BFR96S	0.12	–60	–	10	25	SOT37
BFQ34	0.3	–60	–	11	25	SOT122
BLW32	0.5	–60	–	11	25	SOT122
BLX96	0.5	–60	–	6	25	SOT48
BFQ68	0.7	–60	–	10	25	SOT122
BLW33	1	–60	–	10	25	SOT122
BLX97	1	–60	–	5.5	25	SOT48
BLW34	1.8	–60	–	9	25	SOT122
BLW898 1)	3	–60	–	8.5	25	SOT171
BLW98	3.5	–60	–	6.5	25	SOT122
BLX98	3.5	–60	–	5	25	SOT48/2
BLV57	6	–60	–	8	25	SOT161
BLV859 1)	20	–51	–	10	25	SOT262
BLV58	25	–45	–	10	25	SOT289
Class AB Bands IV & V 470 - 860 MHz						
BLV57	–	–	30	6.5	25	SOT161
BLV59	–	–	30	7	25	SOT171
BLV62	–	–	150	8.5	28	SOT262A2
BLV862 1)	–	–	150	8.5	28	SOT262

---

1) preliminary specification

RF POWER MOS TRANSISTORS

type number	P_L (PEP) (W)	V_{DS} (V)	G_p (dB)	package
HF SSB class AB (f = 28 MHz, d_3/d_5 < −30 dB, 28 V & 50 V supply)				
BLF145	30	28	20.⁽¹⁾	SOT123
BLF175	30	50	23	SOT123
BLF246	80	28	20.⁽¹⁾	SOT121
BLF147	150	28	17	SOT121
BLF177	150	50	20	SOT121
HF SSB class A (f = 1.5 - 30 MHz, d_3/d_5 < −40 dB, 28 V & 50 V supply)				
BLF242	2	28	23.⁽¹⁾	SOT123
BLF244	4	28	23.⁽¹⁾	SOT123
BLF145	8	28	24	SOT123
BLF175	8	50	24	SOT123
BLF246	20	28	23.⁽¹⁾	SOT121

RF POWER MOS TRANSISTORS *continued*

type number	P_L (W)	V_{DS} (V)	f (MHz)	G_p (dB)	efficiency (%)	package
VHF base stations (f = 25 - 175 MHz, class B operation, 28 V & 50 V supply)						
BLF241	3	28	175	14.⁽¹⁾	50.⁽¹⁾	SOT5
BLF242	5	28	175	13	50	SOT123
BLF244	15	28	175	13	50	SOT123
BLF245	30	28	175	13	50	SOT123
BLF245B	30	28	175	14	55	SOT279
BLF245C	30	28	175	16	55	SOT161
BLF175	30	50	108	20.⁽¹⁾	65.⁽¹⁾	SOT123
BLF246B	60	28	175	14	55	SOT161
BLF246	80	28	108	16	55	SOT121
BLF276	100	50	108	18	60	SOT119D3
BLF147	150	28	108	14.⁽¹⁾	70.⁽¹⁾	SOT121
BLF177	150	50	108	19.⁽¹⁾	70.⁽¹⁾	SOT121
BLF247B	150	28	225	12	55	SOT262A1
BLF277	150	50	175	14	50	SOT119
BLF248	300	28	175	13.⁽¹⁾	67.⁽¹⁾	SOT262A1
BLF278	300	50	108	20	70.⁽¹⁾	SOT262A1
VHF mobile transmitters (f = 25 - 175 MHz, class B operation, 12.5 V supply)						
BLF221	2	12.5	175	10	50	SOT5
BLF221B	2	12.5	175	9	50	SOT5
BLF241	2	12.5	175	10	50	SOT5
BLF241E	2	12.5	175	13	50	SOT5
BLF244	6	12.5	175	15.⁽¹⁾	60.⁽¹⁾	SOT123
BLF245	12	12.5	175	12.⁽¹⁾	66.⁽¹⁾	SOT123
BLF225	30	12.5	175	8.5	60	SOT123

(1) typical values

RF POWER MOS TRANSISTORS *continued*

type number	P_L (W)	V_{DS} (V)	f (MHz)	G_p (dB)	efficiency (%)	package
UHF base stations (f = 100 - 500 MHz, class B operation, 28 V supply)						
BLF521	2	12.5	500	10		SOT172D
BLF522	5	12.5	500	10		SOT171
BLF542	5	28	500	10	50	SOT171
BLF543	10	28	500	12		SOT171
BLF544	20	28	500	11		SOT171
BLF544B	20	28	500	11		SOT268
BLF545	40	28	500	11		SOT268
BLF546	80	28	500	11		SOT268
BLF547	100	28	500	10	50	SOT262A2
BLF548	150	28	500	9		SOT262A2
UHF base stations (f= 225 - 400 MHz, class B operation, 28 V supply)						
BLF242	5	28	400	13.0[1]		SOT123
BLF244	15	28	400	11.0[1]		SOT123
BLF245	30	28	400	10.0[1]		SOT123
UHF base stations (f= 860 - 960 MHz, class B operation, 28 V supply)						
BLF521	2	12.5	960	7.5[1]	50[1]	SOT172D
BLF542	5	28	960	8.0[1]	50[1]	SOT171
BLF543	10	28	960	8.0[1]	50[1]	SOT171
BLF544	20	28	960	7.0[1]	50[1]	SOT171
BLF545	40	28	960	7.0[1]	50[1]	SOT268
BLF546	80	28	960	9.0[1]	50[1]	SOT268

RF POWER MOS TRANSISTORS *continued*

type number	P_o sync (W)	V_{DS} (V)	f (MHz)	G_p (dB)	d_{im} (dB)	I_D (mA)	package
TV transposers (band 3, f = 174 -230 MHz, class A operation, 28 V supply)							
BLF346	25.[3]	28	225	14	−52	3000	SOT119
BLF348	67.[3]	28	225	11	−52	2 × 4600	SOT262A1
TV transmitters (band 3, f = 174 - 230 MHz, class AB operation)							
BLF276	100	50	225	13	–	50	SOT119D3
BLF378	250.[2]	50	225	14	–	2 × 500	SOT262A1
BLF278	250	50	225	14	–	2 × 500	SOT262A1
BLF248	300	28	225	10	–	2 × 250	SOT262A1
BLF368	300.[2]	32	225	12	–	2 × 250	SOT262A1

[1] typical values
[2] at 1 dB power gain compression
[3] typical value at heatsink temperature of 70 °C

CONTINUOUS POWER TYPES

CLASS-A MEDIUM POWER

type number	f (GHz)	V_{CE} (V)	I_C (mA)	P_{L1} 2) (mW)	G_{po} 3) (dB)	envelope
LEE1015TA	1	20	200	1500. 1)	14. 1)	SOT122
LBE2003S	2	18	30	200	10	FO45
LBE2009S	2	18	110	700	9	FO45
LCE2009S	2	18	110	700	9	FO46
LTE21009R	2.1	16	150	1000. 1)	8.5 1)	FO41B
LTE21015R	2.1	16	250	1500	8.5	FO41B
LTE21025R	2.1	16	400	2800. 1)	7.8 1)	FO41B
LWE2010S	2.3	18	110	800	8	FO93
LWE2015R	2.3	16	250	1200	7.5	FO93
LAE4001R	4	15	25	85	8.5	SOT100
LAE4002S	4	18	30	126	7.5	SOT100
LTE42005S	4.2	18	110	450	6.6	FO41B
LTE42008R	4.2	16	250	800	7	FO41B
LTE42012R	4.2	16	400	1000	6	FO41B

CLASS-A HIGH POWER

type number	f (GHz)	V_{CE} (V)	I_C (A)	P_{L1} 2) (W)	G_{po} 3) (dB)	envelope
LZ1418E100R	1.4 to 1.8	16	2	9	10	FO57C
LV1721E50R	1.7 to 2.1	16	1.1	5	7	FO83
LV2024E45R	2.0 to 2.4	16	1.1	4	6	FO83
LVE21050R	2.1	16	1.1	5.5 1)	8. 1)	FO83

1) typical values
2) load power for 1 dB compressed power gain
3) low-level power gain associated with P_{L1}

CLASS-AB

type number	f (GHz)	V_{CE} (V)	I_{CQ} (mA)	P_{L1} 1,2) (W)	G_{po} 3) (dB)	η_c 1) (%)	envelope
LFE15600X	1.5	24	200	55	8	50	FO231
LFE18500X	1.85	24	200	48	7	42	FO231
LLE15370X	1.5	24	300	37	8.7	52	FO229
LLE16045X	1.65	24	50	5.0	10	50	FO229
LLE16120X	1.65	24	100	11	10	45	FO229
LLE16350X	1.65	24	100	35	8	48	FO229
LLE18010X	1.85	24	10	1.5	10	40	FO229
LLE18040X	1.85	24	50	4.5	10	48	FO229
LLE18100X	1.85	24	100	13	10.8	42	FO229
LLE18150X	1.85	24	50	15	8.5	40	FO229
LLE15180X	1.5	24	50	18	8.2	50	FO229
LLE18300X	1.85	24	100	30	9	40	FO229
LX1214E500X	1.2 to 1.4	24	150	50	11	50	FO91B
LXE15450X	1.5	24	150	45	8	48	FO91B
LXE16350X	1.65	24	300	35	10		FO91
LXE18300X	1.85	24	300	30	9		FO91
LXE18400X	1.85	24	150	39	7	42	FO91B

CLASS-B MEDIUM POWER

type number	f (GHz)	V_{CC} (V)	P_L (W)	G_p (dB)	η_c (%)	envelope
PLB16004U	1.65	28	4	10	45	FO229
PTB23001X	2	24	1	7	45	FO41B
PTB23002U	2.3	28	2	9	45	FO41B
PTB23003X	2	24	3	8.75	45	FO41B
PTB23005X	2	24	5	9.2	50	FO41B
PTB23006U	2	28	5	9	40	FO41B
PTB32001X	3	24	1.3	8	35	FO41B
PTB32003X	3	24	2.5	8	35	FO41B
PTB32005X	3	24	4.5	8	35	FO41B
PVB42004X	1	24	13. 1)	11. 1)	60. 1)	FO83
PVB42004X	2	24	10. 1)	10. 1)	48. 1)	FO83
PVB42004X	3	24	7.5 1)	8.8 1)	30. 1)	FO83
PVB42004X	4	24	4. 1)	6. 1)	25. 1)	FO83

1) typical values at P_{L1}

2) load power for 1 dB compressed power gain

3) low-level power gain associated with P_{L1}

CLASS-B HIGH POWER

type number	f (GHz)	V_{CC} (V)	P_L (W)	G_p (dB)	η_c (%)	envelope
PZ1418B15U	1.4 to 1.8	28	12.5	7	38	FO57C
PZ1418B30U	1.4 to 1.8	28	27	7.3	38	FO57C
PLB16012U	1.6	28	10	8	45	FO229
PLB16030U	1.6	28	30	7	45	FO229
PZB16035U	1.6	28	35	8	45	FO57C
PXB16050U	1.65	28	45	8.5	45	FO91
PZ1721B25U	1.7 to 2.1	28	25	7	35	FO57C
PZ2024B20U	2.0 to 2.4	28	20	6	35	FO57C

OSCILLATOR POWER TRANSISTORS

type number	f (GHz)	V_{CC} (V)	I_C (mA)	P_L 1) (mW)	envelope
PTC4001T	3	20	200	550	FO41B
PPC5001T	5	20	200	450	FO102

---

1) typical values

PULSED POWER TYPES

AVIONICS PULSED POWER TRANSISTORS

type number	f (GHz)	V_{CC} (V)	t_p (μs)	δ (%)	P_L (W)	G_p (dB)	η_c (%)	envelope
MF1011B900Y	1.03 to 1.09	50	10	1	800	6	40	FO231
MTB10010U	1.03	24	10	1	9.5	9.5	50	FO41B
MX1011B430W	1.03	45	30	1	480	6.7	45	FO91
MX1011B200Y	1.09	50	10	1	200	7	48	FO91
MX1011B700Y	1.09	50	10	1	650	6	48	FO91
MZ0912B50Y	0.96 to 1.215	50	10	10	50	7	42	FO57C
MZ0912B100Y	0.96 to 1.215	50	10	10	100	7	42	FO57C
MZ0912B100Y	1.03 to 1.09	50	300.(2)	10	125.(1)	8.(1)	50.(1)	FO57C
MX0912B250Y	0.96 to 1.215	50	10	10	235	7	42	FO91
MX0912B250Y	1.03 to 1.09	50	300.(2)	10	280.(1)	8.(1)	48.(1)	FO91
MX0912B350Y	0.96 to 1.215	50	10	10	325	7	40	FO91
MX0912B350Y	1.03 to 1.09	50	300.(2)	10	350.(1)	8.(1)	48.(1)	FO91

---

(1) typical values
(2) pulse burst; 1 μs on, 1 μs off

RADAR PULSED POWER TRANSISTORS

type number	f	V_{CC}	t_p	δ	P_L[2]	G_p[2]	η_c[2]	envelope
	(GHz)	(V)	(μs)	(%)	(W)	(dB)	(%)	
L-band								
RZ1214B35Y	1.2 to 1.4	50	150	5	35	7	30	FO57C
RZ1214B35Y	1.2 to 1.4	50	300	10	40.[1]	7.[1]	35.[1]	FO57C
RZ1214B65Y	1.2 to 1.4	50	150	5	70	7	35	FO57C
RZ1214B65Y	1.2 to 1.4	50	300	10	80.[1]	7.[1]	30.[1]	FO57C
RX1214B130Y	1.2 to 1.4	50	150	5	130	7	35	FO91
RX1214B150W	1.2 to 1.4	50	1000	10	135	6.5	35	FO91
RX1214B150W	1.2 to 1.4	50	150	5	220.[1]	8.[1]	45.[1]	FO91
RX1214B170W	1.2 to 1.4	42	500	10	170	6.7	40	FO91
RX1214B300Y	1.2 to 1.4	50	150	5	250	7	35	FO91
RX1214B300Y	1.2 to 1.4	50	300	10	300.[1]	7.5[1]	35.[1]	FO91
RX1214B350Y	1.2 to 1.4	50	130	6	280	7	40	FO91
S-band								
RN2731B110W	2.7 to 3.1	40	100	10	110	7.5	40	TBF
RN3034B80W	3 to 3.4	40	100	10	80	6.5	35	TBF
RO2731B10W	2.7 to 3.1	40	100	10	12.5	7.5	40	TBF
RO2731B20W	2.7 to 3.1	40	100	10	25	7.5	40	TBF
RO2731B50W	2.7 to 3.1	40	100	10	60	7.5	40	TBF

[1] typical values

[2] minimum values

GENERAL-PURPOSE HYBRID AMPLIFIERS

type number	supply current (mA)	stages	gain (dB)	noise figure (dB)	output at 1 dB gain comp (dBm)	third-order intercept point (dBm)	V_o[1] (dBμV)	V_{out} d_{im}=−60 dB (DIN45004A1) (dBμV)	max VSWR[2] input	max VSWR[2] output	package
12 V supply - "low noise", 40 - 860 MHz											
OM2045	12	1	12	3.6	5.4	17.2	99	76	2.0	1.4	Fig.a
OM2050	18	2	18	5.2	6.7	18.2	100	81	1.5	1.9	Fig.b
OM2052	42	2	27	4.5	13.4	25.2	107		2.2	2.1	Fig.b
OM2060	56	3	23	5.4	13.4	25.2	107	87	1.4	1.6	Fig.c
OM2063	52	3	29	3.6		23.2	105	85	2.3	1.4	Fig.c
OM2070	100	3	28-29	4.8	20.8	30.2	112	95	2.3	1.9	Fig.d
12 V supply - "high output", 40 - 860 MHz											
OM2070B	100	3	30	4.8		30.2	112	95	2.7	1.9	Fig.d
OM2081/87	63	1	11	7.5	21	33	115	105	1.5	1.3	
OM2082/61[3]	125	2	21	6		33	115	105	1.35	1.35	
OM2082/87	140	2	21	6		29	115	104	1.8	1.4	
OM2083/87	150	3	30	7.5	21	33	115	105	1.4	1.4	

12 V supply - "satellite IF band"

type number	supply current (mA)	stages	gain (dB)	noise figure (dB)	frequency range	V_o[1] (dBμV)	max VSWR[2] input	max VSWR[2] output	package
OM926/E	37.5	2	15-20	6.5	10-2050	113	2.1	2.3	Fig.b
OM3056/20[4]	60	2	15-20	4.5	950-2050	111	2.6	2.1	Fig.i
OM956/11[4]	74	3	19-23.5	4.5	950-2050	114	1.9	1.7	Fig.i

---

[1] measured at −60 dB intermodulation distortion to DIN45004B, par.6.3, 3-tone

[2] the typical maximum VSWR occurring in the frequency range for a sample connected to a 75 Ω line

[3] for 40 - 600 MHz frequency range

[4] under development

VIDEO OUTPUT AMPLIFIERS

type number	number of channels	supply voltage (V)	output signal (V)	P_{tot} (W)	video bandwidth (MHz)	rise time (typ) (ns)	fall time (typ) (ns)	package
CR2424S	1	70	40	4.6	130	2.3	2.1	SOT115L
CR2427S	1	70	40	4.6	130	2.3	2.1	SOT348
CR3424	1	90	40	6.4	130	2.3	2.1	SOT115L
CR3427	1	90	40	6.4	130	2.3	2.1	SOT348
CR4424 1)	1	90	40	8	200	1.7	1.7	SOT115L
CR4427 1)	1	90	40	8	200	1.7	1.7	SOT348
CR5527S	3	90	50	9.6	110	3.0	2.2	SOT347
CR6627	3	90	50	9.6	120	2.7	2.2	SOT347
CR5627	3	90	50	9.6	100	3.5	2.7	SOT347
CR6727 1)	3	70	50	9.6	140	2.5	2.1	SOT347
CR6927 1)	3	90	45	10.6	140	2.5	2.1	SOT347

1) under development

TRANSISTORS FOR BUFFER STAGES IN VIDEO AMPLIFIERS

type number	polarity	V_{CEO} (V)	h_{FE} (typ)	f_T (typ) (GHz)	I_C (max) (mA)	package
BFQ131	npn	18	70	4	150	SOT54
BFG35	npn	18	70	4	150	SOT223

CATV AMPLIFIER MODULES

type number	power gain (dB)	composite triple beat (dB)	output voltage (dBmV)		total DC current consumption (mA)
Reverse amplifiers 5 to 120 MHz range					
	@ 10 MHz	max 14 chs	min		max
BGY66B 1)	25	−66	60		135
BGY67B/2 1)	25	−57	59		150
Reverse amplifiers 5 to 200 MHz range					
	@ 10 MHz	max 22 chs 2)	min 3)	min 4)	max
BGY61	13	−68	67	64	230
BGY65	18.5	−68	67	64	230
BGY67	22	−67	67	64	230
BGY67A	24	−67	67	64	230
Forward amplifiers 40 to 450 MHz range					
	@ 50 MHz	max 60 chs 5)	min 6)		max
BGY80	12.5	−54	61.5		200
BGY81	12.5	−58	64		240
BGY82	14	−55	61.5		200
BGY83	14	−59	64		240
BGY84	17	−55	60		200
BGY85	17	−58	62.5		240
BGY84A	18.4	−55	60		200
BGY85A	18.4	−59	62.5		240
BGY85H/01 7)	14.8 - 16.4	−65. 8)	62.5		230
BGY86	22	−54	61.5		200
BGY87	22	−58	64		240
BGY87B	27	−58	64		340
BGY88	34.5	−58	62		340
BGY89	38	−58	63		340
40 to 450 MHz range power doublers					
BGD102	18.5	−65	65		435
BGD104	20	−64	64.5		435
BGD106	22	−63	66.5		435
BGD108	36	−64	67		625

CATV AMPLIFIER MODULES *(continued)*

type number	power gain (dB)	composite triple beat (dB)	output voltage (dBmV)	total DC current consumption (mA)
Forward amplifiers 40 to 550 MHz range				
	@ 50 MHz	max 77 chs9)	min 10)	max
BGY580	12.5	−52	59	200
BGY581	12.5	−56	61.5	240
BGY582	14	−55	59	200
BGY583	14	−59	61.5	240
BGY584	17	−56	58.5	200
BGY585	17	−59	61	240
BGY584A	18.2	−56	59	200
BGY585A	18.2	−59	61.5	240
BGY586	22	−53	58.5	200
BGY587	22	−57	61	240
BGY587B	27	−57	61	340
BGY588	34.5	−57	61	340
40 to 550 MHz range power doublers				
BGD502	18.5	−65	64	435
BGD504	20	−64	63.5	435
BGD506	22	−62	62.5	435
BGD508	36	−62	63	625
Forward amplifiers 40 to 600 MHz range				
	@ 50 MHz	max 85 chs11)	min 12)	max
BGY681	12.5	−52	59.5	240
BGY683	14	−55	58	240
BGY685	17	−55	60	240
BGY685A	18.2	−55	60	240
BGY685AD	18.5	−62	62	250
BGY685AL	18.5	−56	59	260
BGY687	21.5	−54	58	240
BGY687B	27	−53	60	340
40 to 600 MHz range power doublers				
BGD601	12.5	−62	63	435
BGD602	18.5	−62	63	435
BGD602D	18	−68	66	440

CATV AMPLIFIER MODULES *(continued)*

type number	power gain (dB)	composite triple beat (dB)	output voltage (dBmV)		total DC current consumption (mA)
Forward amplifiers 40 to 750 MHz range					
	@ 50 MHz	max 110 chs[13]	min [14]		max
BGY785A	18.5	–53	59		235
BGY785AD[1]	18.5	–58	61		265
BGY787	21.5	–51	59		235
40 to 750 MHz range power doublers					
BGD702	18.5	–58	61		435
BGD702D[1]	18.5	–64	64		460
BGD704	20	–57	60.5		435
Forward amplifiers 40 to 860 MHz range					
	@ 50 MHz	max	min [15]	[16]	max
BGY883	15	–61	–	58.5	235
BGY885A	18.5	–61	–	64	240
BGY885B	20	–60	–	59	235
BGY887[1]	21.5	–60	–	59	235
BGY887B	29	–60	–	58.5	340
BGY888[1]	34	–60		58	340
Cascade amplifiers					
BGE884	17	–	55	55	150
BGE885	17	–	–	59	240
BGE887[17]	23.[17]	–	–	60.5	280
BGX881	12.5	–	60.5	59.5	240
BGX885N	17	–	61	60	240
40 to 860 MHz range power doublers					
BGD802[1]	18.5	–55	–	61	435
BGD885	17	–	64	63	450
Forward amplifiers 40 to 1000 MHz range					
BGY1085A	18.5	–53	59		240

CATV OPTICAL RECEIVER MODULES

type number	flatness (dB)	return loss (input/output) (dB)	2nd order beat (dB)	total DC current consumption (mA)
5 to 200 MHz **BGY67BO**[1][18]	±0.5	11[19]	–70[20]	200
40 to 860 MHz **BGY887BO**[1][18]	±0.5	12[19]	–70[20]	250

CATV AMPLIFIER MODULES *(continued)*

General remarks

- Source and load impedance of all devices = 75 Ω
- Characteristics of all devices specified at T_{amb} = 30 °C
- Characteristics of all devices measured at 24 V DC supply
- For more information, please consult the relevant data sheet

Notes

1) provisional data/advance information

2) measured at 175.25 MHz (ch 7) with V_o = 50 dBmV

3) intermodulation distortion = −60 dB (DIN 45004, para. 6.3 : tone), $V_p = V_o$, f_p = 35.25 MHz, $V_q = V_o$−6 dB, f_q = 42.25 MHz, $V_r = V_o$−6 dB, f_r = 44.25 MHz, measured at $f_{(p+q-r)}$ = 33.25 MHz

4) as 3) but with f_p = 187.25 MHz, f_q = 194.25 MHz, f_r = 196.25 MHz, $f_{(p+q-r)}$ = 185.25 MHz

5) measured at 445.25 MHz (ch H22) with V_o = 46 dBmV

6) as 3) but with f_p = 440.25 MHz, f_q = 447.25 MHz, f_r = 449.25 MHz, $f_{(p+q-r)}$ = 438.25 MHz

7) high slope pre-amphasis, for details see data sheet

8) 36 channels; measured at 433.25 MHz (ch H20) with V_o = 46 dBmV

9) measured at 547.25 MHz (ch 27) with V_o = 44 dBmV

10) as 3) but with f_p = 540.25 MHz, f_q = 547.25 MHz, f_r = 549.25 MHz, $f_{(p+q-r)}$ = 538.25 MHz

11) measured at 595.25 MHz (ch 35) with V_o = 44 dBmV

12) as 3) but with f_p = 590.25 MHz, f_q = 597.25 MHz, f_r = 599.25 MHz, $f_{(p+q-r)}$ = 588.25 MHz

13) measured at 745.25 MHz with V_o = 44 dBmV

14) as 3) but with f_p = 740.25 MHz, f_q = 747.25 MHz, f_r = 749.25 MHz, $f_{(p+q-r)}$ = 738.25 MHz

15) as 3) but with f_p = 341.25 MHz, f_q = 348.25 MHz, f_r = 350.25 MHz, $f_{(p+q-r)}$ = 339.25 MHz

16) as 3) but with f_p = 851.25 MHz, f_q = 858.25 MHz, f_r = 860.25 MHz, $f_{(p+q-r)}$ = 849.25 MHz

17) frequency range: 470 - 860 MHz, gain measured at 470 MHz

18) module has a mono-mode optical input for wavelengths from 1290 to 1600 nm; pin diode current-monitoring terminal; 1 metre SM pigtail, 9/125 µm spectral sensitivity: >0.85 A/W at 1310 nm, >0.9 A/W at 1550 nm

19) value listed is output rerurn loss. optical input return loss: >40 dB

20) two-laser test (each laser: 0.5 mW, 40% modulation index)

RF POWER AMPLIFIER MODULES

type number	frequency band (MHz)	output power (W)	power gain (dB)	supply voltage (V)	efficiency min. (%)	package
VHF car mobile						
BGY43	148 - 174	13	19.4	12.5	40	SOT132B
BGY143	146 - 174	13	19.4	12.5	40	SOT132B
BGY32	68 - 88	18	22.6	12.5	40	SOT132B
BGY33	80 - 108	18	22.6	12.5	40	SOT132B
BGY35	132 - 156	18	20.8	12.5	40	SOT132B
BGY36	148 - 174	18	20.8	12.5	40	SOT132B
BGY132	68 - 88	18	22.6	12.5	38	SOT132B
BGY133	80 - 108	18	22.6	12.5	38	SOT132B
BGY135	132 - 156	18	20.8	12.5	38	SOT132B
BGY136	146 - 174	18	20.8	12.5	38	SOT132B
BGY145A	68 - 88	29	22.9	12.5	37	SOT183A
BGY145B	146 - 174	28	19.7	12.5	40	SOT183A
UHF portable						
BGY46A	400 - 440	1.4	15.0	9.6	40	SOT181
BGY46B	430 - 470	1.4	15.0	9.6	40	SOT181
BGY47A	400 - 470	3.2	18.0	9.6	40	SOT181
BGY47B	460 - 520	3.2	18.0	9.6	40	SOT181
BGY113A	400 - 440	7.0	38.5	7.5	40	SOT288D
BGY113B	430 - 470	7.0	38.5	7.5	40	SOT288D
BGY113C	470 - 520	7.0	38.5	7.5	35	SOT288D
BGY148A	400 - 440	3.0	24.8	6.0	50	SOT421A
BGY148B	430 - 488	3.0	24.8	6.0	50	SOT421A
BGY152	400 - 470	7.0	38.5	7.2	40	SOT434A
SHF portable						
BGY115A	824 - 849	1.2	27.8	6.0	45	SOT321
BGY115B	872 - 905	1.2	27.8	6.0	45	SOT321
BGY115C	890 - 915	1.6	29.0	6.0	45	SOT321
BGY115C/P	890 - 915	1.4	28.5	6.0	50	SOT321
BGY115D	902 - 928	1.2	27.8	6.0	45	SOT321
BGY118A	824 - 849	1.2	27.8	4.8	50	SOT321
BGY118B	872 - 905	1.2	27.8	4.8	50	SOT321
BGY118C	890 - 915	1.4	28.4	4.8	50	SOT321
BGY118D	898 - 928	1.2	27.8	4.8	50	SOT321
BGY119A	824 - 849	1.2	27.8	4.8	50	SOT359
BGY119B	872 - 905	1.2	27.8	4.8	50	SOT359
BGY119C	890 - 915	1.4	28.4	4.8	50	SOT359
BGY119D	898 - 928	1.2	27.8	4.8	50	SOT359
BGY120A	824 - 849	1.2	27.8	3.6	50	SOT388
BGY120B	872 - 905	1.2	27.8	3.6	50	SOT388
BGY120D	898 - 928	1.2	27.8	3.6	50	SOT388
BGY122A	824 - 849	1.2	27.8	4.8	50	SOT388
BGY122B	872 - 905	1.2	27.8	4.8	50	SOT388
BGY122D	898 - 928	1.2	27.8	4.8	50	SOT388

RF POWER AMPLIFIER MODULES *(continued)*

type number	frequency band (MHz)	output power (W)	power gain (dB)	supply voltage (V)	efficiency (%)	package
SHF car mobile						
BGY114A	824 - 849	6	37.8	12.5	35	SOT278A
BGY114B	872 - 905	6	37.8	12.5	35	SOT278A
BGY114C	890 - 915	8	39.0	12.5	35	SOT278A
BGY116D	800 - 870	6	37.8	12.5	33	SOT278B
BGY116E	890 - 950	6	37.8	12.5	33	SOT278B
GSM						
BGY200	890 - 915	3.5	35.5	7.2	40	SOT350
BGY201	890 - 915	14.0	41.5	12.5	35	SOT278A
BGY202	880 - 915	1.4	28.5	6.0	45	SOT321
BGY203	880 - 915	3.5	35.5	6.0	40	SOT342
BGY204	880 - 915	3.5	35.5	4.8	45.typ	SOT321B
BGY205	880 - 915	3.5	32.5	6.0	45.typ	SOT321B
BGY206	880 - 915	3.0	27.8	4.8	45.typ	SOT359
BGY207	880 - 915	1.2	27.8	4.8	55.typ	SOT359

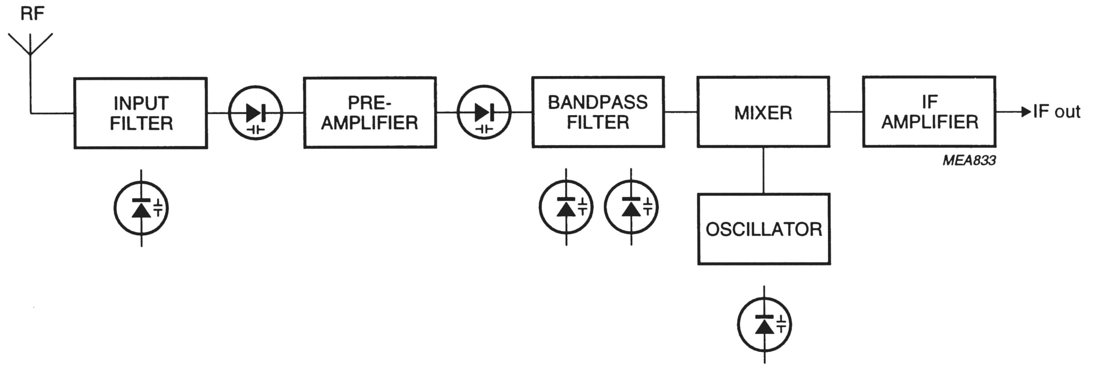
RECOMMENDED LINE-UPS FOR RF TUNERS

VARICAPS

	VHF I		VHF III		UHF	
	leaded	SMD	leaded	SMD	leaded	SMD
Input filter	BB911	BB132 BB148	BB910	BB133 BB148	BB405B	BB134 BB149
Coupling	BB405B	BB131	BB909B	BB135		
Bandpass filter	BB911	BB132 BB148	BB910	BB133 BB148	BB405B	BB134 BB149
Oscillator	BB911	BB132 BB148	BB910	BB133 BB148	BB405B	BB134 BB149

MOSFETS AND BIPOLAR TRANSISTORS

		VHF I	VHF III	UHF
Pre-amplifier	12 V	BF998	BF998	BF998
	5 V	BF904	BF904	BF904
	5 V	BF909	BF909	BF909
Mixer		BF547	BF547	BFS17A
Oscillator		BF547	BF547	BF547
IF amplifier		BFS17		


RF
INPUT FILTER
PRE-AMPLIFIER
BANDPASS FILTER
MIXER
IF AMPLIFIER
IF out
MEA833
OSCILLATOR

Typical RF tuner configuration

RF WIDEBAND TRANSISTORS FOR PAGER FRONT-END (see Fig.1)

function	type number [1]	remarks
RF amplifier	BFT25A	lowest current (0.2 mA)
	BFR505	higher gain, lower noise (1 mA)
	BFC505	higher gain, lower noise, high isolation (0.3 mA)
oscillator, mixer or buffer	BFR92A	choice of the transistor is determined by the available current and the required performance
	BFQ67	
	BFT25A	
	BFR505	

[1] equivalent types are available in SOT23, SOT143, SOT323, or SOT343 packages

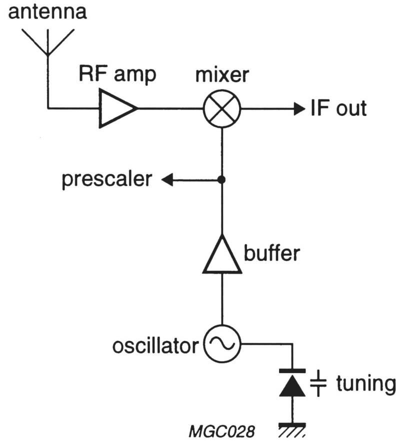

antenna
RF amp
mixer
IF out
prescaler
buffer
oscillator
tuning
MGC028

Fig.1 Typical front-end section for pagers

RF WIDEBAND TRANSISTORS FOR THE RECEIVER SECTION IN CORDLESS/CELLULAR PHONES (see Fig.2)

function	type number	system frequency (MHz)	remarks
LNA	BFC505	1900	high isolation gain, low noise current
	BFR505	900 & 1900	good performance at low current (1 mA)
	BFR520	900 & 1900	higher gain, lower noise (10 mA)
mixer	BFR93A	900	low cost, acceptable performance
	BFG505	900 & 1900	good performance, low current
	BFG520	900 & 1900	higher power to IF (10 mA)
	BFE505	900 & 1900	balanced mixer in a single SOT353 package
buffer and VCO	BFR92A	900	excellent VCO, good buffer, low-cost
	BFR93A	900	excellent VCO, good buffer, low-cost
	BFQ67	900	third generation, good performance
	BFR505	900 & 1900	good VCO, high-gain buffer, low current
	BFR520	900 & 1900	good VCO, higher output power
	BFC505	1900	buffer and VCO in a single SOT353 package
IF	BFS17A	40 to 100	any first or second generation transistor

RF WIDEBAND TRANSISTORS FOR THE RECEIVER SECTION IN CORDLESS/CELLULAR PHONES (see Fig.2)

function	system frequency (MHz)	SOT23	SOT323	SOT143 [1]	SOT343 [1]	SOT353 [2]	SOT363 [2]
LNA	900 & 1900	BFR505	BFS505	BFG505	BFG505W	BFC505	BFM505
	900 & 1900	BFR520	BFS520	BFG520	BFG520W	BFC520	BFM520
mixer	900	BFR93A	BFR93AW	BFG93A	BFG93AW		
	900 & 1900	BFR505	BFS505	BFG505	BFG505W	BFE505	BFM505
	900 & 1900	BFR520	BFS520	BFG520	BFG520W	BFE520	BFM520
buffer and VCO	900	BFR92A	BFR92AW	BFG92A	BFG92AW		
	900	BFR93A	BFR93AW	BFG93A	BFG93AW		
	900	BFQ67	BFQ67W	BFG67	BFG67W		
	900 & 1900	BFR505	BFS505	BFG505	BFG505W	BFC505	BFM505
	900 & 1900	BFR520	BFS520	BFG520	BFG520W	BFC520	BFM520
IF	40 to 100	BF547	BF547W				
		BFS17	BFS17W	BFG17A			
		BFR92A	BFR92AW	BFG92A	BFG92AW		

[1] also available in /X and /XR versions
[2] under development

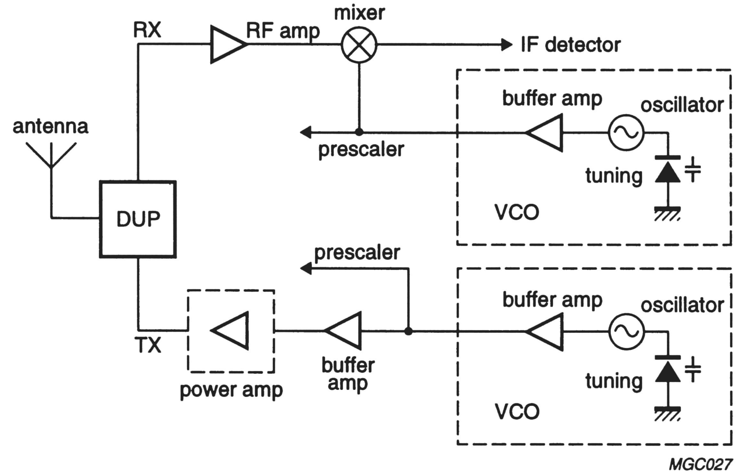

RX
RF amp
mixer
IF detector
buffer amp
oscillator
antenna
prescaler
tuning
DUP
VCO
prescaler
buffer amp
oscillator
TX
buffer
amp
power amp
tuning
VCO
MGC027

Fig.2 Typical RF section for cordless and cellular phones

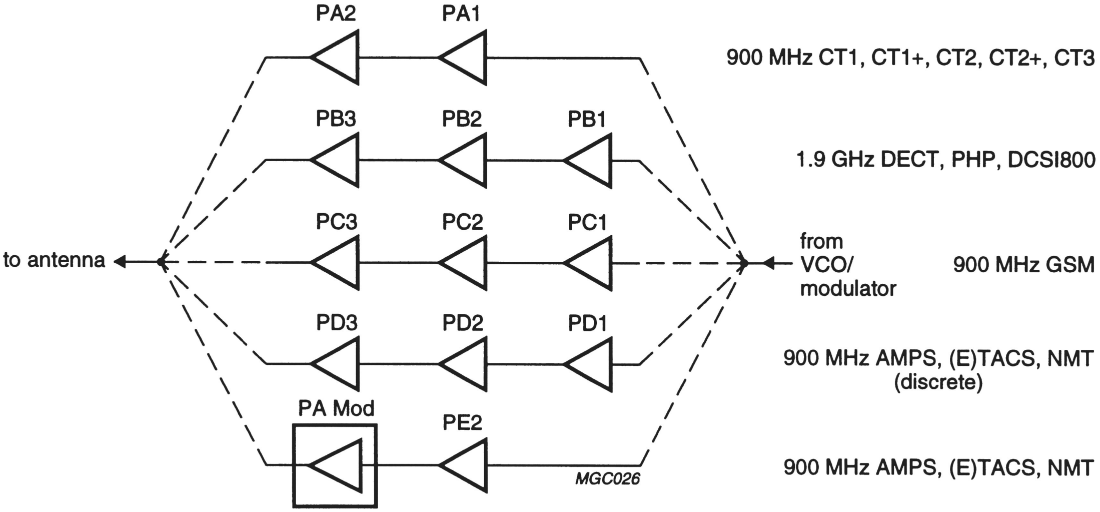

PA2
PA1
900 MHz CT1, CT1+, CT2, CT2+, CT3
PB3
PB2
PB1
1.9 GHz DECT, PHP, DCSI800
PC3
PC2
PC1
to antenna
from
VCO/
modulator
900 MHz GSM
PD3
PD2
PD1
900 MHz AMPS, (E)TACS, NMT
(discrete)
PA Mod
PE2
MGC026
900 MHz AMPS, (E)TACS, NMT

Fig.3 Typical power amplifier section for cordless and cellular phones

RF WIDEBAND TRANSISTORS FOR THE POWER AMPLIFIER SECTION IN CORDLESS/CELLULAR PHONES

(see Fig.3)

system	supply voltage	P_{out}	SOT143	SOT343
CT1, CT1+, CT2, CT2+, CT3	3.3 V	driver for PA2	BFG67	BFG67W
			BFG505	BFG505W
			BFG520	BFG520W
		15 mW	BFG67	BFG67W
		20 mW	BFG520	BFG520W
		40 mW	BFG540	BFG540W
DECT, PHP	3.3 V		BFG540/X	BFG540W/X
			BFG10/X	BFG10W/X
		400 mW	BFG11/X	BFG11W/X

APPLICATION NOTES

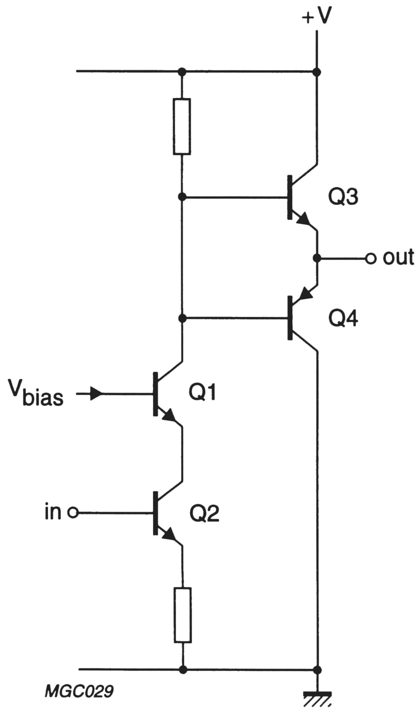
application	report number	release date	demo board
900 MHz low-noise amplifier	RNR45/589/1992	17-12-92	yes
900 MHz low-power down-converter	RNR45/465/1993	30-09-93	yes
900 MHz, 6 V, 1.2 W power amplifier	RNR45/023/1993	12-01-93	yes
1.9 GHz low-noise amplifier	RNR45/343/1992	16-07-92	yes
1.9 GHz low-power down-converter	RNR45/465/1993	26-01-94	yes
1.9 GHz, 3,3 V, 400 mW power amplifier	RNR45/458/1993	29-09-93	yes
GSM power amplifier for 900 MHz at 6 V		31-01-95	
Preamplifier for pager applications	RNR-T45-95-B-341	22-05-95	

WIDEBAND TRANSISTORS FOR APPLICATION IN VIDEO OUTPUT AMPLIFIERS IN MONITORS

application	I_{CM} (mA)	package SOT54 (TO-92)	SOT32 (TO-126)	SOT128 (TO-202)	SOT223
npn cascode driver	500	BFQ161	BFQ162		BFQ166
npn cascode output	100	BFQ221	BFQ222	BFQ225	
	300		BFQ232	BFQ235	
	300		BFQ232A	BFQ235A	
	400		BFQ262	BFQ265	
	400		BFQ262A	BFQ265A	
npn buffer	100	BFQ221	BFQ222	BFQ225	BFQ226
	150	BFQ131			
	300	BFQ231	BFQ232	BFQ235	BFQ236
	300	BFQ231A	BFQ232A	BFQ235A	BFQ236A
pnp buffer	100	BFQ241	BFQ242	BFQ245	BFQ246
	300	BFQ251	BFQ252	BFQ255	BFQ256
	300	BFQ251A	BFQ252A	BFQ255A	BFQ256A

video amplifier

Q1: cascode driver
Q2: cascode output
Q3: npn buffer
Q4: pnp buffer



Video amplifier – typical application diagram for class-A operation

RF POWER TRANSISTORS AND MODULES - RECOMMENDED LINE-UPS

SSB TRANSMITTERS (1.5 MHz - 30 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (PEP) (W)	supply voltage (V)	stud S flange F
Bipolar						
30	BLY87C[1]	2 × BLY89C		30	13	S
30	BLY87C/01[1]	2 × BLY89C		30	13	S
30	BLV10[1]	2 × BLW87		30	13	F
50	BLY88C[1]	2 × BLW60C		50	13	S
50	BLY88C/01[1]	2 × BLW60C		50	13	S
50	BLY91C/01[1]	2 × BLX13C		50	28	S
50	BLY91C[1]	2 × BLX13C		50	28	S
50	BLV20[1]	2 × BLW83		50	28	F
50	BLV11[1]	2 × BLW85		50	13	F
100	BLY89C[1]	4 × BLW60C		100	13	S
100	BLW87[1]	4 × BLW85		100	13	F
140	2 × BLW87[1]	2 × BLW99		150	13	F
150	BLW83[1]	2 × BLW76		150	28	F
250	2 × BLW83[1]	2 × BLW77		250	28	F
220	2 × BLW86[1]	2 × BLW97		300	28	F
500	2 × BLW86	4 × BLW77		450	28	F
680	2 × BLW78[1]	4 × BLW97		600	28	F
300	2 × BLX13C[2]	2 × BLX15		250	50	S
300	2 × BLW83[2]	2 × BLW96		350	50	F
600	2 × BLX39[2]	4 × BLX15		500	50	S
600	2 × BLW50F[1]	4 × BLW95		500	50	F
40	BLY91C/01[2]	2 × BLW78[2]	8 × BLX15	1000	50	S/F
40	BLY91C[2]	2 × BLW78[2]	8 × BLX15	1000	50	S/F
40	BLV20[2]	4 × BLW50F	8 × BLW96	1200	50	F
PowerMOS						
15	BLF244[1]	2 × BLF246		150	28	
30	BLF145[1]	2 × BLF147		300	28	
15	BLF244[1] [2]	2 × BLF177		300	50	
60	BLF246[1]	4 × BLF147		550	28	
10	BLF175[1]	4 × BLF177		550	50	
20	2 × BLF175[1]	8 × BLF177		1000	50	

4

---

[1] Class A operation
[2] 28 V supply in class A operation

MOBILE TRANSMITTERS (68 MHz - 87.5 MHz)

input power (mW)	1st stage	2nd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar					
20	2N4427	BLY87C	8	13	S
20	2N4427	BLV10	8	13	F
35	2N4427	BLW29	14	13	S
70	BFQ42	BLW31	28	13	S
160	BFQ43	BLW60C	45	13	S
160	BFQ43	BLW85	45	13	F
190	BLV10	BLV75/12	75	13	F
PowerMOS					
15	BLF221	BLF245	12	12.5	
25	BLF221	BLF225	25	12.5	

BASE STATIONS (68 MHz - 87.5 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
65	BFS23A	BLY93C		25	28	S
65	BFS23A	BLW84		25	28	F
125	BLW89	BLX39		50	28	S
15	2N3866	BLV21	BLW78	100	28	F
50	2N3866[2)]	BLY93C[2)]	BLX15	150	50	S
50	2N3866[2)]	BLW84[2)]	BLW95	150	50	F
PowerMOS						
30	BLF241	BLF245		30	28	
80	BLF242	BLF246		80	28	
150	BLF244	BLF147		150	28	

[1)] Class A operation
[2)] 28 V supply in class A operation

FM BROADCAST TRANSMITTERS (87.5 MHz - 108 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
100	BLW90	BLX39		50	28	S
40	2N3866	BLV21	BLW78	100	28	F
100	BLW90	BLW86	2 × BLV25	300	28	F
PowerMOS						
240	BLF244	BLF248		300	28	
120	BLF244[2)]	BLF278		300	50	
240	BLF244[2)]	2 × BLF278		550	50	
320	BLF175	4 × BLF278		1000	50	

AM AIRCRAFT TRANSMITTERS (118 MHz - 136 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
110	BLY92C	BLY93C		6	13/28	S
240	BLY91C	BLX39		12	13/28	S
240	BLV20	BLW86		12	13/28	F
100	BLW89	BLY93C	BLW78	25	13/28	S/F
100	BLW89	BLW84	BLW78	25	13/28	S/F

AM AIRCRAFT TRANSMITTERS (100 MHz - 400 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
40	BLW89	2 × BLW90	2 × BLX94C	40	28	S
60	BLW89	BLW91	BLU60/28	60	28	S/F
500	BLW90	2 × BLX94C	2 × BLU60/28	120	28	S/F
PowerMOS						
30	BLF521[4)]	BLF522[4)]	BLF545	40	28	
25	BLF521[4)]	BLF543	BLF546	80	28	
30	BLF521[4)]	BLF543	BLF547	100	28	
100	BLF521[4)]	BLF544	BLF548	150	28	

[4)] $V_{DS} = 12.5$ V

PORTABLE AND MOBILE TRANSMITTERS (132 MHz - 174 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
40	2N4427	BFQ43		2	7.5	–
100	2N4427	BLY87C		8	13	S
100	2N4427	BLV10		8	13	F
125	BFQ42	BLW29		14	13	S
150	BGY36			18	13	F
200	BFQ43	BLW30		30	12.5	S
200	BFQ43	BLV12		30	12.5	F
250	BFQ43	BLW31		28	13	S
100	2N4427	BLW29	BLV45/12	45	13	S/F
115	BGY43	BLV45/12		45	13	F
120	BFQ42	BLW29	BLV75/12	75	13	S/F
PowerMOS						
100	BLF221	BLF245		12	12.5	
150	BLF522	BLF225		25	12.5	

BASE STATIONS (132 MHz - 174 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
200	BLY91C	BLY93C		25	28	S
200	BLV20	BLW84		25	28	F
25	2N3866	BLY91C	BLX39	50	28	S
25	2N3866	BLV20	BLW86	50	28	F
200	BFS23A	BLY93C	2 × BLX39	100	28	S
200	BFS23A	BLW84	2 × BLW86	100	28	F
PowerMOS						
120	BLF241	BLF245		30	28	
220	BLF242	BLF246		80	28	
70	BLF241	BLF245	BLF147	150	28	
250	BLF244	BLF247B		150	28	

TV TRANSPOSERS (BAND III: 174 MHz - 230 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	4th stage	P_o sync (W)	P_o sat (W)	supply voltage (V)
Bipolar							
6	BGY85	2 × BLV31			10	10	25
7	BLV30	2 × BLV32F			20	20	25
3	BGY85	2 × BLV31	2 × BLV33		30	40	25
6	BLV30	2 × BLV33F	4 × BLV33		60	75	25
2	BGY85	2 × BLV31	4 × BLV33	8 × BLV33	100	140	25
PowerMOS							
5	BLF242(3)	2 × BLF244(3)	BLF348		40	60	28
5	BLF242(3)	BLF245B(3)	BLF348		40	60	28
12	BLF244(3)	2 × BLF245(3)	2 × BLF348		75	115	28
12	BLF244(3)	BLF246B(3)	2 × BLF348		75	115	28
20	BLF244(3)	2 × BLF346	4 × BLF348		140	220	28

TV TRANSMITTERS (BAND III: 174 MHz - 230 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_o sync (W)	supply voltage (V)
Bipolar					
8	BGY85	2 × BLV31	2 × BLV33F	130	28
PowerMOS					
25	BLF242	BLF175	2 × BLF276	150	50
50	BLF242(3)	2 × BLF244(3)	BLF368	300	32
50	BLF242(3)	BLF245B(3)	BLF368	300	32
100	BLF242(3)	2 × BLF245(3)	2 × BLF368	550	32
100	BLF242(3)	BLF246B(3)	2 × BLF368	550	32
160	BLF242(3)	2 × BLF346	4 × BLF368	1000	32
50	BLF242(2) (3)	2 × BLF175(3)	6 × BLF378	1250	50

---

(2) 28 V supply in class A operation

(3) Recommended types based on typical behaviour. Bipolar alternatives are BLV30, BLV31, BLV32F

LINE-UPS
RF power amplifiers

PORTABLE AND MOBILE TRANSMITTERS (400 MHz - 512 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
15	BFR96	BLW79	BLW80	2	7.5	S
45	BLV90	BLU99		3	7.5	S
15	BFR96S	BLU99	BLW81	10	13	S
400	BLU99	BLU20/12		20		S/F
280	BLU99	BLU20/12	BLU45/12	45	13	S/F
400	BLU99	BLU20/12	BLU60/12	60	13	S/F
PowerMOS						
50	BLF521	BLF522		5	125	

BASE STATIONS (400 MHz - 470 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar						
40	BLW89	BLW91	BLX94C	30	28	S
220	BLW90	BLX94C	BLU60/28	60	28	S/F
PowerMOS						
35	BLF521$^{4)}$	BLF522$^{4)}$	BLF545	40	28	
40	BLF521$^{4)}$	BLF543	BLF546	80	28	
45	BLF521$^{4)}$	BLF544	BLF547	100	28	
150	BLF521$^{4)}$	BLF544	BLF548	150	28	

---

4) V_{DS} = 12.5 V

TV TRANSPOSERS (BAND IV/V: 470 MHz - 860 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	4th stage	P_o sync (W)	P_o sat (W)	supply voltage (V)
Bipolar							
5	BFQ34	BFQ68	2 × BFQ68		1.4	1.4	15
6	BLW32	BLW33	2 × BLW34		4.4	5.7	25
2	BLW32	BLW33	2 × BLW34	2 × BLW98	8	8	25
3	BLW32	BLW33	2 × BLW34	2 × BLV57	13	15	25
3	BFQ68	BLW34	BLW98	2 × BLV58	25.[5]	30	25
500	2 × BLW898	2 × BLV859			40	–	25

TV TRANSMITTERS (BAND IV/V: 470 MHz - 860 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	4th stage	P_o sync (W)	supply voltage (V)
Bipolar						
12	BFR96S	BFQ68	2 × BLW34	2 × BLV59	60	28
15	BFQ34	BLW34	BLV58	BLV62	150	28
30	BFQ34	2 × BLW33	2 × BLV58	4 × BLV62	500	28

---

[5] 25 W sync, –51 dB (–8/–16/–7 dB)

ANALOG CELLULAR (AMPS, (E)TACS, NMT) 900 MHz

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)
Bipolar					
1	BFG540/X	BLT80	BLT81	1.2	6.0
1	BFG540/X	BLT70	BLT71	1.2	4.8
1	BFG520W/X	BFG10W/X	BLT61	1.2	3.6

DIGITAL CELLULAR (GSM) 900 MHz

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)
Bipolar					
1	BFG540W/X	BFG10W/X	BLT72	3.0 pulsed	4.8
1	BFG540W/X	BFG10W/X	BLT82	3.5 pulsed	6.0

PORTABLE TRANSMITTERS (860 MHz - 960 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)
Bipolar					
1	BFG540	BLT80	BLT81	1.2	6.0
15	BFG91A	BLT80	BLT92/SL	3.0	7.5

MOBILE TRANSMITTERS (860 MHz - 960 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	4th stage	P_L (W)	supply voltage (V)	stud S flange F
Bipolar							
110	BLU86	BLV91/SL	BLV93		8	13	S/F
100	BLV90	BLV92	BLV94		15	13	S/F
100	BLU86	BLV91/SL	BLV93	BLV95	22	13	S/F

BASE STATIONS (860 MHz - 960 MHz), CLASS AB OPERATION

input power (mW)	1st stage	2nd stage	3rd stage	4th stage	P_L (W)	supply voltage (V)	freq (MHz)
Bipolar							
270	BLV103[1]	BLV934			30	26	960
220	BLV103[1]	BLV935			30	26	960
65	BLV99/SL[2]	BLV910	BLV946		40	26	960
64	BLV99/SL	BLV100[3]	BLV101A		45	25	900
100	BLV99/SL	BLV100[3]	BLV101B		45	25	960
25	BGY916	BLV958			75	26	960
75	BLV103[1]	BLV920	BLV958		75	26	960
75	BLV103[1]	BLV920	2 × BLV946		80	26	960
25	BLV99/SL	BLV103	BLV98CE	2 × BLV101A	85	25	900
30	BLV99/SL	BLV103	BLV97CE	2 × BLV101B	85	25	960
35	BLV99/SL	BLV103	BLV945A	BLV950	120	25	900
20	BLV99/SL	BLV103	BLV945A	BLV950	150.(PEP)	25	900[4]
250	BLV103[1]	BLV934	BLV950		150	26	960

DIGITAL CELLULAR 1800 MHz

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)
Bipolar					
4	BFG540W/X	BFG10W/X	BLT13	2.0	6.0

BASE STATIONS (1800 MHz - 1970 MHz), CLASS AB OPERATION

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)	freq (MHz)
Bipolar						
60	BLV2040[3]	BLV2042[3]	BLV2044[3]	15	26	1950
120	BLV2040[3]	BLV2044[3]	BLV2045[3]	25	26	1950
250	BLV2042[3]	BLV2044[3]	2 × BLV2045[3]	50	26	1950

[1] BLV904 is a comparable transistor in an SMD package, but is not yet released
[2] BLV902 is a replacement
[3] BLV909 is a comparable transistor in an SMD package, but is not yet released
[4] IMD −30 dB

AM AIRCRAFT TRANSMITTERS (108 MHz - 144 MHz)

input power (mW)	1st stage	2nd stage	P_L (W)	supply voltage (V)
PowerMOS				
100	BLF242	BLF246	20	28
80	BLF244	BLF147	35	28
120	BLF242[2)]	BLF278	75	50

MILITARY COMMUNICATION TRANSMITTERS (25 MHz - 110 MHz)

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)
PowerMOS					
150	BLF242[1)]	2 × BLF244		12	12.5
150	BLF242[1)]	BLF245B		12	12.5
500	BLF244[1)]	2 × BLF245		60	28
500	BLF244[1)]	BLF246B		60	28
100	BLF242[1)]	BLF245[1)]	2 × BLF246	150	28

[1)] Class A operation
[2)] 28 V supply in class A operation

MICROWAVE TRANSISTORS - RECOMMENDED LINE-UPS

BASE STATIONS, COMMON EMITTER

input power (mW)	1st stage	2nd stage	3rd stage	P_L (W)	supply voltage (V)
1.5 GHz to 1.70 GHz — narrow band					
50	LBE2009SA	LLE16045X	LLE16350X	32	24
100	LBE2009SA	LLE16120X	2 × LLE16350X	60	24
1.70 GHz to 2.0 GHz — narrow band					
50	LBE2009SA	LLE18040X	LLE18300X	27	24
100	LBE2009SA	LLE18100X	2 × LLE18300X	50	24
1.6 GHz — mobile VSAT					
50	LLE18010X	PLB16004U	PLB16030U	30	28

Marking codes for small devices

MARKING LIST

Devices in small packages are marked with a code as listed below.
The actual type number and data code are on the packing.

marking code	type number	package
02p	BST82	SOT23
10 PH	BZD23-C10	SOD81
10 PH	BZD27-C10	SOD87
100 PH	BZD23-C100	SOD81
100 PH	BZD27-C100	SOD87
1015T	LEE1015TA	SOT122
10750L	BUK107-50DL	SOT223
10750S	BUK107-50DS	SOT223
10Y	BZV49-C10	SOT89
11 PH	BZD23-C11	SOD81
11 PH	BZD27-C11	SOD87
110	KTY82-110	SOT23
110 PH	BZD23-C110	SOD81
110 PH	BZD27-C110	SOD87
11D	BYD11D	SOD91
11G	BYD11G	SOD91
11J	BYD11J	SOD91
11K	BYD11K	SOD91
11M	BYD11M	SOD91
11Y	BZV49-C11	SOT89
12 PH	BZD23-C12	SOD81
12 PH	BZD27-C12	SOD87
120	KTY82-120	SOT23
120 PH	BZD23-C120	SOD81
120 PH	BZD27-C120	SOD87
121	KTY82-121	SOT23
122	KTY82-122	SOT23
12Y	BZV49-C12	SOT89
13 PH	BZD23-C13	SOD81
13 PH	BZD27-C13	SOD87
130 PH	BZD23-C130	SOD81
130 PH	BZD27-C130	SOD87
13D PH	BYD13D	SOD81
13G PH	BYD13G	SOD81
13J PH	BYD13J	SOD81
13K PH	BYD13K	SOD81
13M PH	BYD13M	SOD81
13Y	BZV49-C13	SOT89
15 PH	BZD23-C15	SOD81
15 PH	BZD27-C15	SOD87
150	KTY82-150	SOT23
150 PH	BZD23-C150	SOD81
150 PH	BZD27-C150	SOD87
151	KTY82-151	SOT23
152	KTY82-152	SOT23
15Y	BZV49-C15	SOT89
16 PH	BZD23-C16	SOD81
16 PH	BZD27-C16	SOD87
160 PH	BZD23-C160	SOD81
160 PH	BZD27-C160	SOD87
16Y	BZV49-C16	SOT89
1721E50R	LV1721E50R	FO83
17D PH	BYD17D	SOD87
17G PH	BYD17G	SOD87
17J PH	BYD17J	SOD87
17K PH	BYD17K	SOD87
17M PH	BYD17M	SOD87
18 PH	BZD23-C18	SOD81
18 PH	BZD27-C18	SOD87
180 PH	BZD23-C180	SOD81
180 PH	BZD27-C180	SOD87
18Y	BZV49-C18	SOT89
196	LTE42008R	FO41B
198	LTE42012R	FO41B
1A	BC846AW	SOT323
1Ap	BC846A	SOT23
1B	BC846BW	SOT323
1Bp	BC846B	SOT23
1D	BC846W	SOT323
1Dp	BC846	SOT23
1E	BC847AW	SOT323
1Ep	BC847A	SOT23
1F	BC847BW	SOT323
1Fp	BC847B	SOT23
1G	BC847CW	SOT323
1Gp	BC847C	SOT23
1H	BC847W	SOT323
1Hp	BC847	SOT23
1J	BC848AW	SOT323
1Jp	BC848A	SOT23
1Jp	BCV61A	SOT143
1K	BC848BW	SOT323
1Kp	BC848B	SOT23
1Kp	BCV61B	SOT143
1L	BC848CW	SOT323
1Lp	BC848C	SOT23
1Lp	BCV61C	SOT143
1M	BC848W	SOT323
1Mp	BC848	SOT23
1Mp	BCV61	SOT143
1N4001	1N4001ID	SOD81
1N4001 PH	1N4001G	SOD57
1N4002	1N4002ID	SOD81
1N4002 PH	1N4002G	SOD57
1N4003	1N4003ID	SOD81
1N4003 PH	1N4003G	SOD57
1N4004	1N4004ID	SOD81
1N4004 PH	1N4004G	SOD57
1N4005	1N4005ID	SOD81
1N4005 PH	1N4005G	SOD57

DISCRETE SEMICONDUCTORS

Marking codes for small devices

marking code	type number	package
1N4006	1N4006ID	SOD81
1N4006 PH	1N4006G	SOD57
1N4007	1N4007ID	SOD81
1N4007 PH	1N4007G	SOD57
1N4148 PH	1N4148	SOD27
1N4150 PH	1N4150	SOD27
1N4151 PH	1N4151	SOD27
1N4153 PH	1N4153	SOD27
1N4446 PH	1N4446	SOD27
1N4448 PH	1N4448	SOD27
1N5059 PH	1N5059	SOD57
1N5060 PH	1N5060	SOD57
1N5061 PH	1N5061	SOD57
1N5062 PH	1N5062	SOD57
1N5817	1N5817	SOD81
1N5818	1N5818	SOD81
1N5819	1N5819	SOD81
1N821	1N821	SOD68
1N821A	1N821A	SOD68
1N823	1N823	SOD68
1N823A	1N823A	SOD68
1N825	1N825	SOD68
1N825A	1N825A	SOD68
1N827	1N827	SOD68
1N827A	1N827A	SOD68
1N829	1N829	SOD68
1N829A	1N829A	SOD68
1N914 PH	1N914	SOD27
1N916 PH	1N916	SOD27
1Vp	BF820	SOT23
1Wp	BF821	SOT23
1Xp	BF822	SOT23
1Yp	BF823	SOT23
20 PH	BZD23-C20	SOD81
20 PH	BZD27-C20	SOD87
200 PH	BZD23-C200	SOD81
200 PH	BZD27-C200	SOD87
2024E45R	LV2024E45R	FO83
20Y	BZV49-C20	SOT89
210	KTY82-210	SOT23
22 PH	BZD23-C22	SOD81
22 PH	BZD27-C22	SOD87
220	KTY82-220	SOT23
220 PH	BZD23-C220	SOD81
220 PH	BZD27-C220	SOD87
221	KTY82-221	SOT23
222	KTY82-222	SOT23
22Y	BZV49-C22	SOT89
2301X	PTB23001X	FO41B
2303X	PTB23003X	FO41B
2305X	PTB23005X	FO41B
2305X	PTB32005X	FO41B
24 PH	BZD23-C24	SOD81
24 PH	BZD27-C24	SOD87
240 PH	BZD23-C240	SOD81
240 PH	BZD27-C240	SOD87
24Y	BZV49-C24	SOT89
250	KTY82-250	SOT23
251	KTY82-251	SOT23
252	KTY82-252	SOT23
27 PH	BZD23-C27	SOD81
27 PH	BZD27-C27	SOD87
270 PH	BZD23-C270	SOD81
270 PH	BZD27-C270	SOD87
27Y	BZV49-C27	SOT89
2B	BC849BW	SOT323
2Bp	BC849B	SOT23
2C	BC849CW	SOT323
2Cp	BC849C	SOT23
2D	BC849W	SOT323
2Dp	BC849	SOT23
2F	BC850BW	SOT323
2Fp	BC850B	SOT23
2G	BC850CW	SOT323
2Gp	BC850C	SOT23
2H	BC850W	SOT323
2Hp	BC850	SOT23
2Y4	BZV49-C2V4	SOT89
2Y7	BZV49-C2V7	SOT89
30 PH	BZD23-C30	SOD81
30 PH	BZD27-C30	SOD87
300 PH	BZD23-C300	SOD81
300 PH	BZD27-C300	SOD87
30Y	BZV49-C30	SOT89
31D	BYD31D	SOD91
31G	BYD31G	SOD91
31J	BYD31J	SOD91
31K	BYD31K	SOD91
31M	BYD31M	SOD91
3201X	PTB32001X	FO41B
3203X	PTB32003X	FO41B
33 PH	BZD23-C33	SOD81
33 PH	BZD27-C33	SOD87
330 PH	BZD23-C330	SOD81
330 PH	BZD27-C330	SOD87
33D PH	BYD33D	SOD81
33G PH	BYD33G	SOD81
33J PH	BYD33J	SOD81
33K PH	BYD33K	SOD81
33M PH	BYD33M	SOD81
33U PH	BYD33U	SOD81
33V PH	BYD33V	SOD81
33Y	BZV49-C33	SOT89
36 PH	BZD23-C36	SOD81
36 PH	BZD27-C36	SOD87
360 PH	BZD23-C360	SOD81
360 PH	BZD27-C360	SOD87
36Y	BZV49-C36	SOT89
37D PH	BYD37D	SOD87
37G PH	BYD37G	SOD87
37J PH	BYD37J	SOD87
37K PH	BYD37K	SOD87

Marking codes for small devices

marking code	type number	package	marking code	type number	package
37M PH	BYD37M	SOD87	430 PH	BZD23-C430	SOD81
39 PH	BZD23-C39	SOD81	430 PH	BZD27-C430	SOD87
39 PH	BZD27-C39	SOD87	435	LTE21009R	FO41B
390 PH	BZD23-C390	SOD81	435A	LTE21009RA	FO41B
390 PH	BZD27-C390	SOD87	436	LTE21015R	FO41B
395	PPC5001T	FO102	439	LTE21025R	FO41B
39Y	BZV49-C39	SOT89	43U PH	BYD43U	SOD81
3A	BC856AW	SOT323	43V PH	BYD43V	SOD81
3Ap	BC856A	SOT23	43Y	BZV49-C43	SOT89
3B	BC856BW	SOT323	43p	BAS40	SOT23
3Bp	BC856B	SOT23	43-06A	BUK483-60A	SOT223
3D	BC856W	SOT323	43-16PH	BYD43-16	SOD81
3Dp	BC856	SOT23	43-18PH	BYD43-18	SOD81
3E	BC857AW	SOT323	43-20PH	BYD43-20	SOD81
3Ep	BC857A	SOT23	44	BAT54SW	SOT323
3F	BC857BW	SOT323	440	PTC4001T	FO41B
3Fp	BC857B	SOT23	445	LBE2009SA	FO45
3G	BC857CW	SOT323	446	LCE2009SA	FO46
3Gp	BC857C	SOT23	44p	BAS40-04	SOT23
3H	BC857W	SOT323	450A PH	PLVA450A	SOD27
3Hp	BC857	SOT23	4531PH	1N4531	SOD68
3J	BC858AW	SOT323	4532PH	1N4532	SOD68
3Jp	BC858A	SOT23	453A PH	PLVA453A	SOD27
3Jp	BCV62A	SOT143	456A PH	PLVA456A	SOD27
3K	BC858BW	SOT323	459A PH	PLVA459A	SOD27
3Kp	BC858B	SOT23	45A PH	BAS45A	SOD68
3Kp	BCV62B	SOT143	45p	BAS40-05	SOT23
3L	BC858CW	SOT323	462A PH	PLVA462A	SOD27
3Lp	BC858C	SOT23	465A PH	PLVA465A	SOD27
3Lp	BCV62C	SOT143	468A PH	PLVA468A	SOD27
3M	BC858W	SOT323	46p	BAS40-06	SOT23
3Mp	BC858	SOT23	47 PH	BZD23-C47	SOD81
3Mp	BCV62	SOT143	47 PH	BZD27-C47	SOD87
3V6 PH	BZD23-C3V6	SOD81	470 PH	BZD23-C470	SOD81
3V6 PH	BZD27-C3V6	SOD87	470 PH	BZD27-C470	SOD87
3V9 PH	BZD23-C3V9	SOD81	4728A P	1N4728A	SOD66
3V9 PH	BZD27-C3V9	SOD87	4729A P	1N4729A	SOD66
3Y0	BZV49-C3V0	SOT89	4730A P	1N4730A	SOD66
3Y3	BZV49-C3V3	SOT89	4731A P	1N4731A	SOD66
3Y6	BZV49-C3V6	SOT89	4732A P	1N4732A	SOD66
3Y9	BZV49-C3V9	SOT89	4733A P	1N4733A	SOD66
4001	PRLL4001	SOD87	4734A P	1N4734A	SOD66
4002	PRLL4002	SOD87	4735A P	1N4735A	SOD66
407	LBE2003S	FO45	4736A P	1N4736A	SOD66
408	LCE2009S	FO46	4737A P	1N4737A	SOD66
409	LBE2009S	FO45	4738A P	1N4738A	SOD66
411	LWE2015R	FO93	4739A P	1N4739A	SOD66
41-06A	BUK481-60A	SOT223	4740A P	1N4740A	SOD66
41-10A	BUK481-100A	SOT223	4741A P	1N4741A	SOD66
42	BAT54AW	SOT323	4742A P	1N4742A	SOD66
423A PH	BA423A	SOD68	4743A P	1N4743A	SOD66
42-06A	BUK482-60A	SOT223	4744A P	1N4744A	SOD66
42-10A	BUK482-100A	SOT223	4745A P	1N4745A	SOD66
43	BAT54CW	SOT323	4746A P	1N4746A	SOD66
43 PH	BZD23-C43	SOD81	4747A P	1N4747A	SOD66
43 PH	BZD27-C43	SOD87	4748A P	1N4748A	SOD66

DISCRETE SEMICONDUCTORS

Marking codes for small devices

marking code	type number	package	marking code	type number	package
4749A P	1N4749A	SOD66	5246BP	1N5246B	SOD27
47Y	BZV49-C47	SOT89	5247BP	1N5247B	SOD27
47-16PH	BYD47-16	SOD87	5248BP	1N5248B	SOD27
47-18PH	BYD47-18	SOD87	5249BP	1N5249B	SOD27
47-20PH	BYD47-20	SOD87	5250BP	1N5250B	SOD27
4A	BC859AW	SOT323	5251BP	1N5251B	SOD27
4Ap	BC859A	SOT23	5253BP	1N5252B	SOD27
4B	BC859BW	SOT323	5253BP	1N5253B	SOD27
4Bp	BC859B	SOT23	5254BP	1N5254B	SOD27
4C	BC859CW	SOT323	5255BP	1N5255B	SOD27
4Cp	BC859C	SOT23	5256BP	1N5256B	SOD27
4D	BC859W	SOT323	5257BP	1N5257B	SOD27
4Dp	BC859	SOT23	5258BP	1N5258B	SOD27
4E	BC860AW	SOT323	5259BP	1N5259B	SOD27
4Ep	BC860A	SOT23	5260BP	1N5260B	SOD27
4F	BC860BW	SOT323	5261BP	1N5261B	SOD27
4Fp	BC860B	SOT23	5262BP	1N5262B	SOD27
4G	BC860CW	SOT323	5263BP	1N5263B	SOD27
4Gp	BC860C	SOT23	5264BP	1N5264B	SOD27
4H	BC860W	SOT323	5265BP	1N5265B	SOD27
4Hp	BC860	SOT23	5266BP	1N5266B	SOD27
4V3 PH	BZD23-C4V3	SOD81	5267BP	1N5267B	SOD27
4V3 PH	BZD27-C4V3	SOD87	52-06A	BUK582-60A	SOT223
4V7 PH	BZD23-C4V7	SOD81	52-10A	BUK582-100A	SOT223
4V7 PH	BZD27-C4V7	SOD87	53U PH	BYD53U	SOD81
4Y3	BZV49-C4V3	SOT89	53V PH	BYD53V	SOD81
4Y7	BZV49-C4V7	SOT89	53-06A	BUK583-60A	SOT223
502	LTE42005S	FO41B	56	BAT56	SOD123
51 PH	BZD23-C51	SOD81	56 PH	BZD23-C56	SOD81
51 PH	BZD27-C51	SOD87	56 PH	BZD27-C56	SOD87
510 PH	BZD23-C510	SOD81	56Y	BZV49-C56	SOT89
510 PH	BZD27-C510	SOD87	57D PH	BYD57D	SOD87
51Y	BZV49-C51	SOT89	57G PH	BYD57G	SOD87
51-06A	BUK581-60A	SOT223	57J PH	BYD57J	SOD87
51-10A	BUK581-100A	SOT223	57K PH	BYD57K	SOD87
5225BP	1N5225B	SOD27	57M PH	BYD57M	SOD87
5226BP	1N5226B	SOD27	5A	BC807-16W	SOT323
5227BP	1N5227B	SOD27	5Ap	BC807-16	SOT23
5228BP	1N5228B	SOD27	5B	BC807-25W	SOT323
5229BP	1N5229B	SOD27	5Bp	BC807-25	SOT23
5230BP	1N5230B	SOD27	5C	BC807-40W	SOT323
5231BP	1N5231B	SOD27	5Cp	BC807-40	SOT23
5232BP	1N5232B	SOD27	5D	BC807W	SOT323
5233BP	1N5233B	SOD27	5Dp	BC807	SOT23
5234BP	1N5234B	SOD27	5E	BC808-16W	SOT323
5235BP	1N5235B	SOD27	5Ep	BC808-16	SOT23
5236BP	1N5236B	SOD27	5F	BC808-25W	SOT323
5237BP	1N5237B	SOD27	5Fp	BC808-25	SOT23
5238BP	1N5238B	SOD27	5G	BC808-40W	SOT323
5239BP	1N5239B	SOD27	5Gp	BC808-40	SOT23
5240BP	1N5240B	SOD27	5H	BC808W	SOT323
5241BP	1N5241B	SOD27	5Hp	BC808	SOT23
5242BP	1N5242B	SOD27	5V1 PH	BZD23-C5V1	SOD81
5243BP	1N5243B	SOD27	5V1 PH	BZD27-C5V1	SOD87
5244BP	1N5244B	SOD27	5V6 PH	BZD23-C5V6	SOD81
5245BP	1N5245B	SOD27	5V6 PH	BZD27-C5V6	SOD87

Marking codes for small devices

marking code	type number	package
5Y1	BZV49-C5V1	SOT89
5Y6	BZV49-C5V6	SOT89
62 PH	BZD23-C62	SOD81
62 PH	BZD27-C62	SOD87
62Y	BZV49-C62	SOT89
68 PH	BZD23-C68	SOD81
68 PH	BZD27-C68	SOD87
68Y	BZV49-C68	SOT89
6A	BC817-16W	SOT323
6Ap	BC817-16	SOT23
6B	BC817-25W	SOT323
6Bp	BC817-25	SOT23
6C	BC817-40W	SOT323
6Cp	BC817-40	SOT23
6D	BC817W	SOT323
6Dp	BC817	SOT23
6E	BC818-16W	SOT323
6Ep	BC818-16	SOT23
6F	BC818-25W	SOT323
6Fp	BC818-25	SOT23
6G	BC818-40W	SOT323
6Gp	BC818-40	SOT23
6H	BC818W	SOT323
6Hp	BC818	SOT23
6V2 PH	BZD23-C6V2	SOD81
6V2 PH	BZD27-C6V2	SOD87
6V8 PH	BZD23-C6V8	SOD81
6V8 PH	BZD27-C6V8	SOD87
6Y2	BZV49-C6V2	SOT89
6Y8	BZV49-C6V8	SOT89
702	2N7002	SOT23
71	BAS70-01	SOD123
71A	BYD71A	SOD91
71B	BYD71B	SOD91
71C	BYD71C	SOD91
71D	BYD71D	SOD91
71E	BYD71E	SOD91
71F	BYD71F	SOD91
71G	BYD71G	SOD91
73A PH	BYD73A	SOD81
73B PH	BYD73B	SOD81
73C PH	BYD73C	SOD81
73D PH	BYD73D	SOD81
73E PH	BYD73E	SOD81
73F PH	BYD73F	SOD81
73G PH	BYD73G	SOD81
73p	BAS70	SOT23
73-	BAS70W	SOT323
74p	BAS70-04	SOT23
74-	BAS70-04W	SOT323
75 PH	BZD23-C75	SOD81
75 PH	BZD27-C75	SOD87
75Y	BZV49-C75	SOT89
75p	BAS70-05	SOT23
75-	BAS70-05W	SOT323
76p	BAS70-06	SOT23
76-	BAS70-06W	SOT323
77A PH	BYD77A	SOD87
77B PH	BYD77B	SOD87
77C PH	BYD77C	SOD87
77D PH	BYD77D	SOD87
77E PH	BYD77E	SOD87
77F PH	BYD77F	SOD87
77G PH	BYD77G	SOD87
77p	BAS70-07	SOT143
7V5 PH	BZD23-C7V5	SOD81
7V5 PH	BZD27-C7V5	SOD87
7Y5	BZV49-C7V5	SOT89
817 PH	PRLL5817	SOD87
818 PH	PRLL5818	SOD87
819 PH	PRLL5819	SOD87
81A	PMBZ5250B	SOT23
81B	PMBZ5251B	SOT23
81C	PMBZ5252B	SOT23
81D	PMBZ5253B	SOT23
81E	PMBZ5254B	SOT23
81F	PMBZ5255B	SOT23
81G	PMBZ5256B	SOT23
81H	PMBZ5257B	SOT23
82 PH	BZD23-C82	SOD81
82 PH	BZD27-C82	SOD87
8V2 PH	BZD23-C8V2	SOD81
8V2 PH	BZD27-C8V2	SOD87
8Y2	BZV49-C8V2	SOT89
91 PH	BZD23-C91	SOD81
91 PH	BZD27-C91	SOD87
97p	BCV65	SOT143
98p	BCV65B	SOT143
9V1 PH	BZD23-C9V1	SOD81
9V1 PH	BZD27-C9V1	SOD87
9Y1	BZV49-C9V1	SOT89
A1	BAW56W	SOT323
A10 PH	BZX79-A10	SOD27
A11 PH	BZX79-A11	SOD27
A12 PH	BZX79-A12	SOD27
A13 PH	BZX79-A13	SOD27
A15 PH	BZX79-A15	SOD27
A16 PH	BZX79-A16	SOD27
A18 PH	BZX79-A18	SOD27
A1p	BAW56	SOT23
A20 PH	BZX79-A20	SOD27
A22 PH	BZX79-A22	SOD27
A24 PH	BZX79-A24	SOD27
A27	PXTA27	SOT89
A27 PH	BZX79-A27	SOD27
A2V4 PH	BZX79-A2V4	SOD27
A2V7 PH	BZX79-A2V7	SOD27
A2p	BAT18	SOT23
A3	1PS300	SC70
A30 PH	BZX79-A30	SOD27
A33 PH	BZX79-A33	SOD27
A36 PH	BZX79-A36	SOD27

Marking codes for small devices

marking code	type number	package
A39 PH	BZX79-A39	SOD27
A3T	1PS181	SC59
A3V0 PH	BZX79-A3V0	SOD27
A3V3 PH	BZX79-A3V3	SOD27
A3V6 PH	BZX79-A3V6	SOD27
A3V9 PH	BZX79-A3V9	SOD27
A3p	BAT17	SOT23
A4	BAV70W	SOT323
A43 PH	BZX79-A43	SOD27
A47 PH	BZX79-A47	SOD27
A4V3 PH	BZX79-A4V3	SOD27
A4V7 PH	BZX79-A4V7	SOD27
A4p	BAV70	SOT23
A51	BRY62	SOT143
A51 PH	BZX79-A51	SOD27
A56 PH	BZX79-A56	SOD27
A5V1 PH	BZX79-A5V1	SOD27
A5V6 PH	BZX79-A5V6	SOD27
A5p	BRY61	SOT23
A6	BAS16W	SOT323
A6	BAS216	SOD110
A6	BAS616	SOD123
A62 PH	BZX79-A62	SOD27
A68 PH	BZX79-A68	SOD27
A6V2 PH	BZX79-A6V2	SOD27
A6V8 PH	BZX79-A6V8	SOD27
A6p	BAS16	SOT23
A7	BAV99W	SOT323
A75 PH	BZX79-A75	SOD27
A7V5 PH	BZX79-A7V5	SOD27
A7p	BAV99	SOT23
A8V2 PH	BZX79-A8V2	SOD27
A91	BAS17	SOT23
A9V1 PH	BZX79-A9V1	SOD27
AA	BCX51	SOT89
AAp	BCW60A	SOT23
ABp	BCW60B	SOT23
AC	BCX51-10	SOT89
ACp	BCW60C	SOT23
AD	BCX51-16	SOT89
ADp	BCW60D	SOT23
AE	BCX52	SOT89
AG	BCX52-10	SOT89
AGp	BCX70G	SOT23
AH	BCX53	SOT89
AHp	BCX70H	SOT23
AJp	BCX70J	SOT23
AK	BCX53-10	SOT89
AKp	BCX70K	SOT23
AL	BCX53-16	SOT89
AM	BCX52-16	SOT89
AMp	BSS64	SOT23
AQ	2PB709Q	SC59
AR	2PB709R	SC59
AR1	BSR40	SOT89
AR2	BSR41	SOT89
AR3	BSR42	SOT89
AR4	BSR43	SOT89
AS	2PB709S	SC59
AS1	BST50	SOT89
AS2	BST51	SOT89
AS3	BST52	SOT89
AT1	BST39	SOT89
AT2	BST40	SOT89
B10 PH	BZX79-B10	SOD27
B11 PH	BZX79-B11	SOD27
B12 PH	BZX79-B12	SOD27
B13 PH	BZX79-B13	SOD27
B15 PH	BZX79-B15	SOD27
B16 PH	BZX79-B16	SOD27
B18 PH	BZX79-B18	SOD27
B20 PH	BZX79-B20	SOD27
B22 PH	BZX79-B22	SOD27
B24 PH	BZX79-B24	SOD27
B26	BF570	SOT23
B27 PH	BZX79-B27	SOD27
B2V4 PH	BZX79-B2V4	SOD27
B2V7 PH	BZX79-B2V7	SOD27
B2p	BSV52	SOT23
B3	1PS301	SC70
B30 PH	BZX79-B30	SOD27
B33 PH	BZX79-B33	SOD27
B36 PH	BZX79-B36	SOD27
B39 PH	BZX79-B39	SOD27
B3T	1PS184	SC59
B3V0 PH	BZX79-B3V0	SOD27
B3V3 PH	BZX79-B3V3	SOD27
B3V6 PH	BZX79-B3V6	SOD27
B3V9 PH	BZX79-B3V9	SOD27
B43 PH	BZX79-B43	SOD27
B47 PH	BZX79-B47	SOD27
B4V3 PH	BZX79-B4V3	SOD27
B4V7 PH	BZX79-B4V7	SOD27
B51 PH	BZX79-B51	SOD27
B56 PH	BZX79-B56	SOD27
B5V1 PH	BZX79-B5V1	SOD27
B5V6 PH	BZX79-B5V6	SOD27
B5p	BSR12	SOT23
B62 PH	BZX79-B62	SOD27
B68 PH	BZX79-B68	SOD27
B6V2 PH	BZX79-B6V2	SOD27
B6V8 PH	BZX79-B6V8	SOD27
B75 PH	BZX79-B75	SOD27
B7V5 PH	BZX79-B7V5	SOD27
B8V2 PH	BZX79-B8V2	SOD27
B9V1 PH	BZX79-B9V1	SOD27
BA	BCX54	SOT89
BA220 PH	BA220	SOD27
BA221 PH	BA221	SOD27
BA314 PH	BA314	SOD27
BA315 PH	BA315	SOD27
BA316 PH	BA316	SOD27

Marking codes for small devices

marking code	type number	package	marking code	type number	package
BA317 PH	BA317	SOD27	BCp	BCW61C	SOT23
BA318 PH	BA318	SOD27	BD	BCX54-16	SOT89
BA482	BA482	SOD68	BDP31	BDP31	SOT223
BA483	BA483	SOD68	BDP32	BDP32	SOT223
BA484	BA484	SOD68	BDp	BCW61D	SOT23
BAS15	BAS15	SOD68	BE	BCX55	SOT89
BAT81	BAT81	SOD68	BF720	BF720	SOT223
BAT82	BAT82	SOD68	BF721	BF721	SOT223
BAT83	BAT83	SOD68	BF722	BF722	SOT223
BAT85	BAT85	SOD68	BF723	BF723	SOT223
BAT86	BAT86	SOD68	BFG135	BFG135	SOT223
BAV10 PH	BAV10	SOD27	BFG16A	BFG16A	SOT223
BAV18 PH	BAV18	SOD27	BFG198	BFG198	SOT223
BAV19 PH	BAV19	SOD27	BFG31	BFG31	SOT223
BAV20 PH	BAV20	SOD27	BFG35	BFG35	SOT223
BAV21 PH	BAV21	SOD27	BFG541	BFG541	SOT223
BAV45	BAV45	TO18	BFG591	BFG591	SOT223
BAW62 PH	BAW62	SOD27	BFG94	BFG94	SOT223
BAX12 PH	BAX12	SOD27	BFG97	BFG97	SOT223
BAX14 PH	BAX14	SOD27	BFQ166	BFQ166	SOT223
BAX18 PH	BAX18	SOD27	BFQ236	BFQ236	SOT223
BAY80 PH	BAY80	SOD27	BFQ236A	BFQ236A	SOT223
BAp	BCW61A	SOT23	BFQ256	BFQ256	SOT223
BB112	BB112	SOD69	BFQ256A	BFQ256A	SOT223
BB119 PH	BB119	SOD27	BG	BCX55-10	SOT89
BB130	BB130	SOD69	BGp	BCX71G	SOT23
BB204B	BB204B	TO92	BH	BCX56	SOT89
BB212	BB212	TO92	BHp	BCX71H	SOT23
BBp	BCW61B	SOT23	BJp	BCX71J	SOT23
BC	BCX54-10	SOT89	BK	BCX56-10	SOT89
BCP51	BCP51	SOT223	BKp	BCX71K	SOT23
BCP51/10	BCP51-10	SOT223	BL	BCX56-16	SOT89
BCP51/10	BCP52-10	SOT223	BLT50	BLT50	SOT223
BCP51/16	BCP51-16	SOT223	BLT70	BLT70	SOT223
BCP51/16	BCP52-16	SOT223	BLT71	BLT71	SOT223
BCP52	BCP52	SOT223	BLT80	BLT80	SOT223
BCP53	BCP53	SOT223	BLT81	BLT81	SOT223
BCP53/10	BCP53-10	SOT223	BLU56	BLU56	SOT223
BCP53/16	BCP53-16	SOT223	BLU86	BLU86	SOT223
BCP54	BCP54	SOT223	BM	BCX55-16	SOT89
BCP54/10	BCP54-10	SOT223	BMp	BSS63	SOT23
BCP54/16	BCP54-16	SOT223	BQ	2PB709AQ	SC59
BCP55	BCP55	SOT223	BR	2PB709AR	SC59
BCP55/10	BCP55-10	SOT223	BR1	BSR30	SOT89
BCP55/16	BCP55-16	SOT223	BR2	BSR31	SOT89
BCP56	BCP56	SOT223	BR3	BSR32	SOT89
BCP56/10	BCP56-10	SOT223	BR4	BSR33	SOT89
BCP56/16	BCP56-16	SOT223	BS	2PB709AS	SC59
BCP68	BCP68	SOT223	BS1	BST60	SOT89
BCP68/10	BCP68-10	SOT223	BS2	BST61	SOT89
BCP68/16	BCP68-16	SOT223	BS3	BST62	SOT89
BCP68/25	BCP68-25	SOT223	BSP100	BSP100	SOT223
BCP69	BCP69	SOT223	BSP106	BSP106	SOT223
BCP/10	BCP69-10	SOT223	BSP107	BSP107	SOT223
BCP/16	BCP69-16	SOT223	BSP108	BSP108	SOT223
BCP/25	BCP69-25	SOT223	BSP110	BSP110	SOT223

marking code	type number	package
BSP120	BSP120	SOT223
BSP121	BSP121	SOT223
BSP122	BSP122	SOT223
BSP124	BSP124	SOT223
BSP126	BSP126	SOT223
BSP127	BSP127	SOT223
BSP128	BSP128	SOT223
BSP130	BSP130	SOT223
BSP145	BSP145	SOT223
BSP15	BSP15	SOT223
BSP152	BSP152	SOT223
BSP16	BSP16	SOT223
BSP19	BSP19	SOT223
BSP20	BSP20	SOT223
BSP205	BSP205	SOT223
BSP206	BSP206	SOT223
BSP220	BSP220	SOT223
BSP225	BSP225	SOT223
BSP230	BSP230	SOT223
BSP250	BSP250	SOT223
BSP30	BSP30	SOT223
BSP31	BSP31	SOT223
BSP32	BSP32	SOT223
BSP33	BSP33	SOT223
BSP40	BSP40	SOT223
BSP41	BSP41	SOT223
BSP43	BSP43	SOT223
BSP50	BSP50	SOT223
BSP51	BSP51	SOT223
BSP52	BSP52	SOT223
BSP60	BSP60	SOT223
BSP61	BSP61	SOT223
BSP62	BSP62	SOT223
BSP89	BSP89	SOT223
BSP92	BSP92	SOT223
BT1	BST15	SOT89
BT2	BST16	SOT89
BY228 PH	BY228	SOD64
BY328 PH	BY328	SOD64
BY428 PH	BY428	SOD64
BY438 PH	BY438	SOD64
BY448 PH	BY448	SOD57
BY458 PH	BY458	SOD57
BY527 PH	BY527	SOD57
BYG50D PH	BYG50D	SOD106
BYG50G PH	BYG50G	SOD106
BYG50J PH	BYG50J	SOD106
BYG50K PH	BYG50K	SOD106
BYG50M PH	BYG50M	SOD106
BYG60D PH	BYG60D	SOD106
BYG60G PH	BYG60G	SOD106
BYG60J PH	BYG60J	SOD106
BYG60K PH	BYG60K	SOD106
BYG60M PH	BYG60M	SOD106
BYG70D PH	BYG70D	SOD106
BYG70G PH	BYG70G	SOD106
BYG70J PH	BYG70J	SOD106
BYG80A PH	BYG80A	SOD106
BYG80B PH	BYG80B	SOD106
BYG80C PH	BYG80C	SOD106
BYG80D PH	BYG80D	SOD106
BYG80E PH	BYG80E	SOD106
BYG80F PH	BYG80F	SOD106
BYG80G PH	BYG80G	SOD106
BYG80J PH	BYG80J	SOD106
BYG90 20 PH	BYG90-20	SOD106A
BYG90 30 PH	BYG90-30	SOD106A
BYG90 40 PH	BYG90-40	SOD106A
BYG90 90 PH	BYG90-90	SOD106A
BYM26A PH	BYM26A	SOD64
BYM26B PH	BYM26B	SOD64
BYM26C PH	BYM26C	SOD64
BYM26D PH	BYM26D	SOD64
BYM26E PH	BYM26E	SOD64
BYM26F PH	BYM26F	SOD64
BYM26G PH	BYM26G	SOD64
BYM36A PH	BYM36A	SOD64
BYM36B PH	BYM36B	SOD64
BYM36C PH	BYM36C	SOD64
BYM36D PH	BYM36D	SOD64
BYM36E PH	BYM36E	SOD64
BYM36F PH	BYM36F	SOD64
BYM36G PH	BYM36G	SOD64
BYM56A PH	BYM56A	SOD64
BYM56B PH	BYM56B	SOD64
BYM56C PH	BYM56C	SOD64
BYM56D PH	BYM56D	SOD64
BYM56E PH	BYM56E	SOD64
BYM99 PH	BYM99	SOD64
BYR210	PBYR2100CT	SOT223
BYR235	PBYR235CT	SOT223
BYR240	PBYR240CT	SOT223
BYR245	PBYR245CT	SOT223
BYR28	PBYR280CT	SOT223
BYR29	PBYR290CT	SOT223
BYV26A PH	BYV26A	SOD57
BYV26B PH	BYV26B	SOD57
BYV26C PH	BYV26C	SOD57
BYV26D PH	BYV26D	SOD57
BYV26E PH	BYV26E	SOD57
BYV26F PH	BYV26F	SOD57
BYV26G PH	BYV26G	SOD57
BYV27-100	BYV27-100	SOD57
BYV27-150	BYV27-150	SOD57
BYV27-200	BYV27-200	SOD57
BYV27-300	BYV27-300	SOD57
BYV27-400	BYV27-400	SOD57
BYV27-50	BYV27-50	SOD57
BYV28-100	BYV28-100	SOD64
BYV28-150	BYV28-150	SOD64
BYV28-200	BYV28-200	SOD64
BYV28-300	BYV28-300	SOD64

Marking codes for small devices

marking code	type number	package
BYV28-400	BYV28-400	SOD64
BYV28-50	BYV28-50	SOD64
BYV36A PH	BYV36A	SOD57
BYV36B PH	BYV36B	SOD57
BYV36C PH	BYV36C	SOD57
BYV36D PH	BYV36D	SOD57
BYV36E PH	BYV36E	SOD57
BYV36F PH	BYV36F	SOD57
BYV36G PH	BYV36G	SOD57
BYV40-10	BYV40-100	SOT223
BYV40-15	BYV40-150	SOT223
BYV40-20	BYV40-200	SOT223
BYV95A PH	BYV95A	SOD57
BYV95B PH	BYV95B	SOD57
BYV95C PH	BYV95C	SOD57
BYV96D PH	BYV96D	SOD57
BYV96E PH	BYV96E	SOD57
BYV97F PH	BYV97F	SOD57
BYV97G PH	BYV97G	SOD57
BYV98 PH	BYV98	SOD57
BYV99 PH	BYV99	SOD57
BYW54 PH	BYW54	SOD57
BYW55 PH	BYW55	SOD57
BYW56 PH	BYW56	SOD57
BYW95A PH	BYW95A	SOD64
BYW95B PH	BYW95B	SOD64
BYW95C PH	BYW95C	SOD64
BYW96D PH	BYW96D	SOD64
BYW96E PH	BYW96E	SOD64
BYW97F PH	BYW97F	SOD64
BYW97G PH	BYW97G	SOD64
BYX10G PH	BYX10G	SOD57
BZA100	BZA100	SO20
BZG03C10 PH	BZG03-C10	SOD106A
BZG03C100 PH	BZG03-C100	SOD106A
BZG03C11 PH	BZG03-C11	SOD106A
BZG03C110 PH	BZG03-C110	SOD106A
BZG03C12 PH	BZG03-C12	SOD106A
BZG03C120 PH	BZG03-C120	SOD106A
BZG03C13 PH	BZG03-C13	SOD106A
BZG03C130 PH	BZG03-C130	SOD106A
BZG03C15 PH	BZG03-C15	SOD106A
BZG03C150 PH	BZG03-C150	SOD106A
BZG03C16 PH	BZG03-C16	SOD106A
BZG03C160 PH	BZG03-C160	SOD106A
BZG03C18 PH	BZG03-C18	SOD106A
BZG03C180 PH	BZG03-C180	SOD106A
BZG03C20 PH	BZG03-C20	SOD106A
BZG03C200 PH	BZG03-C200	SOD106A
BZG03C22 PH	BZG03-C22	SOD106A
BZG03C220 PH	BZG03-C220	SOD106A
BZG03C24 PH	BZG03-C24	SOD106A
BZG03C240 PH	BZG03-C240	SOD106A
BZG03C27 PH	BZG03-C27	SOD106A
BZG03C270 PH	BZG03-C270	SOD106A
BZG03C30 PH	BZG03-C30	SOD106A
BZG03C33 PH	BZG03-C33	SOD106A
BZG03C36 PH	BZG03-C36	SOD106A
BZG03C39 PH	BZG03-C39	SOD106A
BZG03C43 PH	BZG03-C43	SOD106A
BZG03C47 PH	BZG03-C47	SOD106A
BZG03C51 PH	BZG03-C51	SOD106A
BZG03C56 PH	BZG03-C56	SOD106A
BZG03C62 PH	BZG03-C62	SOD106A
BZG03C68 PH	BZG03-C68	SOD106A
BZG03C75 PH	BZG03-C75	SOD106A
BZG03C82 PH	BZG03-C82	SOD106A
BZG03C91 PH	BZG03-C91	SOD106A
BZG04 10 PH	BZG04-10	SOD106A
BZG04 100 PH	BZG04-100	SOD106A
BZG04 11 PH	BZG04-11	SOD106A
BZG04 110 PH	BZG04-110	SOD106A
BZG04 12 PH	BZG04-12	SOD106A
BZG04 120 PH	BZG04-120	SOD106A
BZG04 13 PH	BZG04-13	SOD106A
BZG04 130 PH	BZG04-130	SOD106A
BZG04 15 PH	BZG04-15	SOD106A
BZG04 150 PH	BZG04-150	SOD106A
BZG04 16 PH	BZG04-16	SOD106A
BZG04 160 PH	BZG04-160	SOD106A
BZG04 18 PH	BZG04-18	SOD106A
BZG04 180 PH	BZG04-180	SOD106A
BZG04 20 PH	BZG04-20	SOD106A
BZG04 200 PH	BZG04-200	SOD106A
BZG04 22 PH	BZG04-22	SOD106A
BZG04 24 PH	BZG04-24	SOD106A
BZG04 27 PH	BZG04-27	SOD106A
BZG04 30 PH	BZG04-30	SOD106A
BZG04 33 PH	BZG04-33	SOD106A
BZG04 36 PH	BZG04-36	SOD106A
BZG04 39 PH	BZG04-39	SOD106A
BZG04 43 PH	BZG04-43	SOD106A
BZG04 47 PH	BZG04-47	SOD106A
BZG04 51 PH	BZG04-51	SOD106A
BZG04 56 PH	BZG04-56	SOD106A
BZG04 62 PH	BZG04-62	SOD106A
BZG04 68 PH	BZG04-68	SOD106A
BZG04 75 PH	BZG04-75	SOD106A
BZG04 82 PH	BZG04-82	SOD106A
BZG04 8V2 PH	BZG04-8V2	SOD106A
BZG04 91 PH	BZG04-91	SOD106A
BZG04 9V1 PH	BZG04-9V1	SOD106A
BZT03C10	BZT03-C10	SOD57
BZT03C100	BZT03-C100	SOD57
BZT03C11	BZT03-C11	SOD57
BZT03C110	BZT03-C110	SOD57
BZT03C12	BZT03-C12	SOD57
BZT03C120	BZT03-C120	SOD57
BZT03C13	BZT03-C13	SOD57
BZT03C130	BZT03-C130	SOD57
BZT03C15	BZT03-C15	SOD57
BZT03C150	BZT03-C150	SOD57

Marking codes for small devices

marking code	type number	package	marking code	type number	package
BZT03C16	BZT03-C16	SOD57	BZV90C2V4	BZV90-C2V4	SOT223
BZT03C160	BZT03-C160	SOD57	BZV90C2V7	BZV90-C2V7	SOT223
BZT03C18	BZT03-C18	SOD57	BZV90C30	BZV90-C30	SOT223
BZT03C180	BZT03-C180	SOD57	BZV90C33	BZV90-C33	SOT223
BZT03C20	BZT03-C20	SOD57	BZV90C36	BZV90-C36	SOT223
BZT03C200	BZT03-C200	SOD57	BZV90C39	BZV90-C39	SOT223
BZT03C22	BZT03-C22	SOD57	BZV90C3V0	BZV90-C3V0	SOT223
BZT03C220	BZT03-C220	SOD57	BZV90C3V3	BZV90-C3V3	SOT223
BZT03C24	BZT03-C24	SOD57	BZV90C3V6	BZV90-C3V6	SOT223
BZT03C240	BZT03-C240	SOD57	BZV90C3V9	BZV90-C3V9	SOT223
BZT03C27	BZT03-C27	SOD57	BZV90C43	BZV90-C43	SOT223
BZT03C270	BZT03-C270	SOD57	BZV90C47	BZV90-C47	SOT223
BZT03C30	BZT03-C30	SOD57	BZV90C4V3	BZV90-C4V3	SOT223
BZT03C300	BZT03-C300	SOD57	BZV90C4V7	BZV90-C4V7	SOT223
BZT03C33	BZT03-C33	SOD57	BZV90C51	BZV90-C51	SOT223
BZT03C330	BZT03-C330	SOD57	BZV90C56	BZV90-C56	SOT223
BZT03C36	BZT03-C36	SOD57	BZV90C5V1	BZV90-C5V1	SOT223
BZT03C360	BZT03-C360	SOD57	BZV90C5V6	BZV90-C5V6	SOT223
BZT03C39	BZT03-C39	SOD57	BZV90C62	BZV90-C62	SOT223
BZT03C390	BZT03-C390	SOD57	BZV90C68	BZV90-C68	SOT223
BZT03C43	BZT03-C43	SOD57	BZV90C6V2	BZV90-C6V2	SOT223
BZT03C430	BZT03-C430	SOD57	BZV90C6V8	BZV90-C6V8	SOT223
BZT03C47	BZT03-C47	SOD57	BZV90C75	BZV90-C75	SOT223
BZT03C470	BZT03-C470	SOD57	BZV90C7V5	BZV90-C7V5	SOT223
BZT03C51	BZT03-C51	SOD57	BZV90C8V2	BZV90-C8V2	SOT223
BZT03C510	BZT03-C510	SOD57	BZV90C9V1	BZV90-C9V1	SOT223
BZT03C56	BZT03-C56	SOD57	BZW03C10	BZW03-C10	SOD64
BZT03C62	BZT03-C62	SOD57	BZW03C100	BZW03-C100	SOD64
BZT03C68	BZT03-C68	SOD57	BZW03C11	BZW03-C11	SOD64
BZT03C75	BZT03-C75	SOD57	BZW03C110	BZW03-C110	SOD64
BZT03C7V5	BZT03-C7V5	SOD57	BZW03C12	BZW03-C12	SOD64
BZT03C82	BZT03-C82	SOD57	BZW03C120	BZW03-C120	SOD64
BZT03C8V2	BZT03-C8V2	SOD57	BZW03C13	BZW03-C13	SOD64
BZT03C91	BZT03-C91	SOD57	BZW03C130	BZW03-C130	SOD64
BZT03C9V1	BZT03-C9V1	SOD57	BZW03C15	BZW03-C15	SOD64
BZV10	BZV10	SOD68	BZW03C150	BZW03-C150	SOD64
BZV11	BZV11	SOD68	BZW03C16	BZW03-C16	SOD64
BZV12	BZV12	SOD68	BZW03C160	BZW03-C160	SOD64
BZV13	BZV13	SOD68	BZW03C18	BZW03-C18	SOD64
BZV14	BZV14	SOD68	BZW03C180	BZW03-C180	SOD64
BZV37	BZV37	SOD68	BZW03C20	BZW03-C20	SOD64
BZV86 1V4 PH	BZV86-1V4	SOD27	BZW03C200	BZW03-C200	SOD64
BZV86 2V0 PH	BZV86-2V0	SOD27	BZW03C22	BZW03-C22	SOD64
BZV86 2V6 PH	BZV86-2V6	SOD27	BZW03C220	BZW03-C220	SOD64
BZV86 3V2 PH	BZV86-3V2	SOD27	BZW03C24	BZW03-C24	SOD64
BZV90C10	BZV90-C10	SOT223	BZW03C240	BZW03-C240	SOD64
BZV90C11	BZV90-C11	SOT223	BZW03C27	BZW03-C27	SOD64
BZV90C12	BZV90-C12	SOT223	BZW03C270	BZW03-C270	SOD64
BZV90C13	BZV90-C13	SOT223	BZW03C30	BZW03-C30	SOD64
BZV90C15	BZV90-C15	SOT223	BZW03C300	BZW03-C300	SOD64
BZV90C16	BZV90-C16	SOT223	BZW03C33	BZW03-C33	SOD64
BZV90C18	BZV90-C18	SOT223	BZW03C330	BZW03-C330	SOD64
BZV90C20	BZV90-C20	SOT223	BZW03C36	BZW03-C36	SOD64
BZV90C22	BZV90-C22	SOT223	BZW03C360	BZW03-C360	SOD64
BZV90C24	BZV90-C24	SOT223	BZW03C39	BZW03-C39	SOD64
BZV90C27	BZV90-C27	SOT223	BZW03C390	BZW03-C390	SOD64

Marking codes for small devices

marking code	type number	package	marking code	type number	package
BZW03C43	BZW03-C43	SOD64	C3	1PS302	SC70
BZW03C430	BZW03-C430	SOD64	C30 PH	BZV85-C30	SOD66
BZW03C47	BZW03-C47	SOD64	C30 PH	BZX55-C30	SOD27
BZW03C470	BZW03-C470	SOD64	C30 PH	BZX79-C30	SOD27
BZW03C51	BZW03-C51	SOD64	C33 PH	BZV85-C33	SOD66
BZW03C510	BZW03-C510	SOD64	C33 PH	BZX55-C33	SOD27
BZW03C56	BZW03-C56	SOD64	C33 PH	BZX79-C33	SOD27
BZW03C62	BZW03-C62	SOD64	C36 PH	BZV85-C36	SOD66
BZW03C68	BZW03-C68	SOD64	C36 PH	BZX55-C36	SOD27
BZW03C75	BZW03-C75	SOD64	C36 PH	BZX79-C36	SOD27
BZW03C7V5	BZW03-C7V5	SOD64	C39 PH	BZV85-C39	SOD66
BZW03C82	BZW03-C82	SOD64	C39 PH	BZX55-C39	SOD27
BZW03C8V2	BZW03-C8V2	SOD64	C39 PH	BZX79-C39	SOD27
BZW03C91	BZW03-C91	SOD64	C3T	1PS226	SC59
BZW03C9V1	BZW03-C9V1	SOD64	C3V0 PH	BZX55-C3V0	SOD27
Black	KTY85-151	SOD80	C3V0 PH	BZX79-C3V0	SOD27
Blue	KTY85-152	SOD80	C3V3 PH	BZX55-C3V3	SOD27
C10 PH	BZV85-C10	SOD66	C3V3 PH	BZX79-C3V3	SOD27
C10 PH	BZX55-C10	SOD27	C3V6 PH	BZV85-C3V6	SOD66
C10 PH	BZX79-C10	SOD27	C3V6 PH	BZX55-C3V6	SOD27
C11 PH	BZV85-C11	SOD66	C3V6 PH	BZX79-C3V6	SOD27
C11 PH	BZX55-C11	SOD27	C3V9 PH	BZV85-C3V9	SOD66
C11 PH	BZX79-C11	SOD27	C3V9 PH	BZX55-C3V9	SOD27
C12 PH	BZV85-C12	SOD66	C3V9 PH	BZX79-C3V9	SOD27
C12 PH	BZX55-C12	SOD27	C43 PH	BZV85-C43	SOD66
C12 PH	BZX79-C12	SOD27	C43 PH	BZX55-C43	SOD27
C13 PH	BZV85-C13	SOD66	C43 PH	BZX79-C43	SOD27
C13 PH	BZX55-C13	SOD27	C47 PH	BZV85-C47	SOD66
C13 PH	BZX79-C13	SOD27	C47 PH	BZX55-C47	SOD27
C15 PH	BZV85-C15	SOD66	C47 PH	BZX79-C47	SOD27
C15 PH	BZX55-C15	SOD27	C4V3 PH	BZV85-C4V3	SOD66
C15 PH	BZX79-C15	SOD27	C4V3 PH	BZX55-C4V3	SOD27
C16 PH	BZV85-C16	SOD66	C4V3 PH	BZX79-C4V3	SOD27
C16 PH	BZX55-C16	SOD27	C4V7 PH	BZV85-C4V7	SOD66
C16 PH	BZX79-C16	SOD27	C4V7 PH	BZX55-C4V7	SOD27
C18 PH	BZV85-C18	SOD66	C4V7 PH	BZX79-C4V7	SOD27
C18 PH	BZX55-C18	SOD27	C51 PH	BZV85-C51	SOD66
C18 PH	BZX79-C18	SOD27	C51 PH	BZX55-C51	SOD27
C1p	BCW29	SOT23	C51 PH	BZX79-C51	SOD27
C20 PH	BZV85-C20	SOD66	C56 PH	BZV85-C56	SOD66
C20 PH	BZX55-C20	SOD27	C56 PH	BZX55-C56	SOD27
C20 PH	BZX79-C20	SOD27	C56 PH	BZX79-C56	SOD27
C22 PH	BZV85-C22	SOD66	C5V1 PH	BZV85-C5V1	SOD66
C22 PH	BZX55-C22	SOD27	C5V1 PH	BZX55-C5V1	SOD27
C22 PH	BZX79-C22	SOD27	C5V1 PH	BZX79-C5V1	SOD27
C24 PH	BZV85-C24	SOD66	C5V6 PH	BZV85-C5V6	SOD66
C24 PH	BZX55-C24	SOD27	C5V6 PH	BZX55-C5V6	SOD27
C24 PH	BZX79-C24	SOD27	C5V6 PH	BZX79-C5V6	SOD27
C27 PH	BZV85-C27	SOD66	C62 PH	BZV85-C62	SOD66
C27 PH	BZX55-C27	SOD27	C62 PH	BZX55-C62	SOD27
C27 PH	BZX79-C27	SOD27	C62 PH	BZX79-C62	SOD27
C2V4 PH	BZX55-C2V4	SOD27	C68 PH	BZV85-C68	SOD66
C2V4 PH	BZX79-C2V4	SOD27	C68 PH	BZX55-C68	SOD27
C2V7 PH	BZX55-C2V7	SOD27	C68 PH	BZX79-C68	SOD27
C2V7 PH	BZX79-C2V7	SOD27	C6V2 PH	BZV85-C6V2	SOD66
C2p	BCW30	SOT23	C6V2 PH	BZX55-C6V2	SOD27

DISCRETE SEMICONDUCTORS

Marking codes for small devices

marking code	type number	package
C6V2 PH	BZX79-C6V2	SOD27
C6V8 PH	BZV85-C6V8	SOD66
C6V8 PH	BZX55-C6V8	SOD27
C6V8 PH	BZX79-C6V8	SOD27
C75 PH	BZV85-C75	SOD66
C75 PH	BZX55-C75	SOD27
C75 PH	BZX79-C75	SOD27
C7V5 PH	BZV85-C7V5	SOD66
C7V5 PH	BZX55-C7V5	SOD27
C7V5 PH	BZX79-C7V5	SOD27
C7p	BCF29	SOT23
C8V2 PH	BZV85-C8V2	SOD66
C8V2 PH	BZX55-C8V2	SOD27
C8V2 PH	BZX79-C8V2	SOD27
C8p	BCF30	SOT23
C95	BCV64	SOT143
C96	BCV64B	SOT143
C9V1 PH	BZV85-C9V1	SOD66
C9V1 PH	BZX55-C9V1	SOD27
C9V1 PH	BZX79-C9V1	SOD27
CAC	BC868	SOT89
CBC	BC868-10	SOT89
CCC	BC868-16	SOT89
CDC	BC868-25	SOT89
CEC	BC869	SOT89
CFC	BC869-10	SOT89
CQ	2PB1219Q	SC70
CQ	2PB710Q	SC59
CR	2PB1219R	SC70
CR	2PB710R	SC59
CS	2PB1219S	SC70
CS	2PB710S	SC59
D1p	BCW31	SOT23
D2p	BCW32	SOT23
D3p	BCW33	SOT23
D7p	BCF32	SOT23
D8p	BCF33	SOT23
D95	BCV63	SOT143
D96	BCV63B	SOT143
DA	BF622	SOT89
DB	BF623	SOT89
DC	BF620	SOT89
DF	BF621	SOT89
DQ	2PB1219AQ	SC70
DQ	2PB710AQ	SC59
DR	2PB1219AR	SC70
DR	2PB710AR	SC59
DS	2PB1219AS	SC70
DS	2PB710AS	SC59
E1	BFS17W	SOT323
E15	BF747	SOT23
E16	BF547	SOT23
E1p	BFS17	SOT23
E2	BF547W	SOT323
E2p	BFS17A	SOT23
E6	BFG17A	SOT143
ED	BCV28	SOT89
EE	BCV48	SOT89
EF	BCV29	SOT89
EG	BCV49	SOT89
F10 PH	BZX79-F10	SOD27
F11 PH	BZX79-F11	SOD27
F12 PH	BZX79-F12	SOD27
F13 PH	BZX79-F13	SOD27
F15 PH	BZX79-F15	SOD27
F16 PH	BZX79-F16	SOD27
F18 PH	BZX79-F18	SOD27
F20 PH	BZX79-F20	SOD27
F22 PH	BZX79-F22	SOD27
F24 PH	BZX79-F24	SOD27
F27 PH	BZX79-F27	SOD27
F2V4 PH	BZX79-F2V4	SOD27
F2V7 PH	BZX79-F2V7	SOD27
F2p	BFS19	SOT23
F30 PH	BZX79-F30	SOD27
F33 PH	BZX79-F33	SOD27
F36 PH	BZX79-F36	SOD27
F39 PH	BZX79-F39	SOD27
F3T	1PS193	SC59
F3V0 PH	BZX79-F3V0	SOD27
F3V3 PH	BZX79-F3V3	SOD27
F3V6 PH	BZX79-F3V6	SOD27
F3V9 PH	BZX79-F3V9	SOD27
F43 PH	BZX79-F43	SOD27
F47 PH	BZX79-F47	SOD27
F4V3 PH	BZX79-F4V3	SOD27
F4V7 PH	BZX79-F4V7	SOD27
F51 PH	BZX79-F51	SOD27
F56 PH	BZX79-F56	SOD27
F5V1 PH	BZX79-F5V1	SOD27
F5V6 PH	BZX79-F5V6	SOD27
F62 PH	BZX79-F62	SOD27
F68 PH	BZX79-F68	SOD27
F689	BF689K	TO92
F6V2 PH	BZX79-F6V2	SOD27
F6V8 PH	BZX79-F6V8	SOD27
F75 PH	BZX79-F75	SOD27
F763	BF763	TO92
F7V5 PH	BZX79-F7V5	SOD27
F8V2 PH	BZX79-F8V2	SOD27
F8p	BF824	SOT23
F9V1 PH	BZX79-F9V1	SOD27
FA	BFQ17	SOT89
FB	BFQ19	SOT89
FDp	BCV26	SOT23
FEp	BCV46	SOT23
FF	BFQ18A	SOT89
FFp	BCV27	SOT23
FG	BFQ149	SOT89
FGp	BCV47	SOT23
FQ	2PA1576Q	SC70
FR	2PA1576R	SC70

Marking codes for small devices

marking code	type number	package
FS	2PA1576S	SC70
G1p	BFS20	SOT23
Green	KTY85-122	SOD80
Grey	KTY85-150	SOD80
H1p	BCW69	SOT23
H2p	BCW70	SOT23
H3p	BCW89	SOT23
JAp	BAV74	SOT23
JC	BAL74W	SOT323
JCp	BAL74	SOT23
JF	BAL99W	SOT323
JFp	BAL99	SOT23
JPp	BAS19	SOT23
JRp	BAS20	SOT23
JSp	BAS21	SOT23
JTp	BAS28	SOT143
JVp	BAS116	SOT23
JXp	BAV170	SOT23
JYp	BAV199	SOT23
JZp	BAW156	SOT23
K0	BST86	SOT89
K1p	BCW71	SOT23
K2p	BCW72	SOT23
K3p	BCW81	SOT23
K7p	BCV71	SOT23
K8p	BCV72	SOT23
K9p	BCF81	SOT23
KA	BSS87	SOT89
KB	BSS192	SOT89
KM	BST80	SOT89
KMZ10BPHDxx	KM110B/1	SOT195
KMZ12BPHDxx	KM110B/4	SOT195
KN	BST84	SOT89
L20	BAS29	SOT23
L21	BAS31	SOT23
L22	BAS35	SOT23
L30	BAV23	SOT143
L31	BAV23S	SOT23
L4	BAT254	SOD110
L4	BAT54W	SOT323
L4	BAT93	SOD123
L41	BAT74	SOT143
L42	BAT54A	SOT23
L43	BAT54C	SOT23
L44	BAT54S	SOT23
L4p	BAT54	SOT23
L51	BAS56	SOT143
L52	BAS678	SOT23
L5p	BAS55	SOT23
L8	BA792	SOD110
LAp	BF550	SOT23
LM	BST120	SOT89
LN	BST122	SOT89
M04	BF904	SOT143
M06	BF904R	SOT143R
M08	PMBFJ308	SOT23
M09	PMBFJ309	SOT23
M10	PMBFJ310	SOT23
M16	PMBF4416A	SOT23
M1p	BFR30	SOT23
M26	BF908	SOT143
M27	BF908R	SOT143R
M28	BF909	SOT143
M29	BF909R	SOT143R
M2p	BFR31	SOT23
M3	BFT46	SOT23
M32	BSD22	SOT143
M33	BF861A	SOT23
M34	BF861B	SOT23
M35	BF861C	SOT23
M4p	BSR56	SOT23
M52	BF992R	SOT143R
M56	BF1100	SOT143
M57	BF1100R	SOT143R
M5p	BSR57	SOT23
M65	BF545A	SOT23
M66	BF545B	SOT23
M67	BF545C	SOT23
M6p	BSR58	SOT23
M74	BSS83	SOT143
M84	BF556A	SOT23
M85	BF556B	SOT23
M85	BF990AR	SOT143R
M86	BF556C	SOT23
M87	BF990A	SOT143
M8p	BSN20	SOT23
M91	BF991	SOT143
M92	BF992	SOT143
MAp	BF989	SOT143
MB	BF998WR	SOT343R
MC	BF904WR	SOT343R
MD	BF908WR	SOT343R
ME	BF909WR	SOT343R
MF	BF1100WR	SOT343R
MGp	BF994S	SOT143
MHp	BF996S	SOT143
MKp	BF997	SOT143
MO1	BF901	SOT143
MO2	BF901R	SOT143R
MOp	BF998	SOT143
MOp	BF998R	SOT143R
N0	BFG505W	SOT343
N0	BFS505	SOT323
N1	BFG505W/X	SOT343
N1	BFR53	SOT23
N2	BFS520	SOT323
N28	BFR520	SOT23
N29	BFR540	SOT23
N3	BFG520W	SOT343
N30	BFR505	SOT23
N33	BFG505	SOT143
N36	BFG520	SOT143

Marking codes for small devices

marking code	type number	package
N37	BFG540	SOT143
N38	BFG590	SOT143
N39	BFG505/X	SOT143
N4	BFG520W/X	SOT343
N4	BFS540	SOT323
N42	BFG520/X	SOT143
N43	BFG540/X	SOT143
N44	BFG590/X	SOT143
N45	BFG505/XR	SOT143R
N48	BFG520/XR	SOT143R
N49	BFG540/XR	SOT143R
N5	BFG520W/XR	SOT343R
N50	BFG590/XR	SOT143R
N6	BFG25AW	SOT343
N6	BFS25A	SOT323
N7	BFG540W/X	SOT343
N70	BFG10	SOT143
N71	BFG10/X	SOT143
N72	BFG11	SOT143
N73	BFG11/X	SOT143
N8	BFG540W/XR	SOT343R
N9	BFG540W	SOT343
NCp	BF840	SOT23
NDp	BF841	SOT23
P + red	BB620	SOD123
P + white	BB515	SOD123
P + yellow	BB619	SOD123
P0	BFG505W/XR	SOT343R
P0 + white	BB150	SOD323
P1	BFP91A	SOT173
P1	BFP91A	SOT173X
P1 + green	BB131	SOD323
P11	PDTA114TT	SOT23
P12	PDTC114TT	SOT323
P1A	PMST3904	SOT323
P1Q	PMST5088	SOT323
P1R	PMST5089	SOT323
P1p	BFR92	SOT23
P2	BFG92AW/XR	SOT343R
P2	BFR92AW	SOT323
P2 + red	BB132	SOD323
P2A	PMST3906	SOT323
P2T	PMST4403	SOT323
P2X	PMST4401	SOT323
P2p	BFR92A	SOT23
P3 + yellow	BB133	SOD323
P4 + white	BB134	SOD323
P5 + white	BB135	SOD323
P6	BFP96	SOT173
P6	BFP96	SOT173X
P8	BFG92A	SOT143
P8	BFG92AW	SOT343
P8 + red	BB158	SOD323
P8 + yellow	BB148	SOD323
P9	BFG92AW/X	SOT343
P9 + green	BB159	SOD323
P9 + white	BB149	SOD323
P9A	PMBS3904	SOT23
PO4	PMSS3904	SOT323
PO6	PMBS3906	SOT23
PO6	PMSS3906	SOT323
PZTA06	PZTA06	SOT223
PZTA14	PZTA14	SOT223
PZTA44	PZTA44	SOT223
PZTA45	PZTA45	SOT223
PZTA55	PZTA55	SOT223
PZTA56	PZTA56	SOT223
PZTA64	PZTA64	SOT223
PZTA92	PZTA92	SOT223
PZTA93	PZTA93	SOT223
R0	BFG93AW/XR	SOT343R
R1p	BFR93	SOT23
R2	BFR93AW	SOT323
R2p	BFR93A	SOT23
R7p	BFR106	SOT23
R8	BFG93A	SOT143
R8	BFG93AW	SOT343
R8	LAE4001R	SOT100
R9	BFG93AW/X	SOT343
R9	LAE4002S	SOT100
Red	KTY85-120	SOD80
S12	BAS12	SOD91
S12	BBY39	SOT23
S13	BBY42	SOT23
S14	BB901	SOT23
S1p	BBY31	SOT23
S2p	BBY40	SOT23
S4	BFG11W/X	SOT343
S4p	BBY62	SOT143
S6p	BF510	SOT23
S7p	BF511	SOT23
S8p	BF512	SOT23
S9p	BF513	SOT23
SA	BSS123	SOT23
SFx (x= 0 - 4)	BB804	SOT23
SP	BSS84	SOT23
SR	BSS131	SOT23
SS	BSS138	SOT23
Sp	BA582	SOD123
T + white	BB811	SOD123
T1	BFG590W	SOT343
T1p	BCX17	SOT23
T1p	BCX17-25	SOT23
T2	BFG590W/X	SOT343
T2p	BCX18	SOT23
T3	BFG590W/XR	SOT343R
T35	BSR20	SOT23
T36	BSR20A	SOT23
T5	BFG10W/X	SOT343
T7p	BSR15	SOT23
T8p	BSR16	SOT23
T92	BSR18A	SOT23

Marking codes for small devices

marking code	type number	package
U1p	BCX19	SOT23
U1p	BCX19-25	SOT23
U1p	BCX19-40	SOT23
U2p	BCX20	SOT23
U35	BSR19	SOT23
U36	BSR19A	SOT23
U7p	BSR13	SOT23
U8p	BSR14	SOT23
U92	BSR17A	SOT23
V1	BFG25AW/X	SOT343
V10	BFT25A	SOT23
V10-20	BYV10-20	SOD81
V10-30	BYV10-30	SOD81
V10-40	BYV10-40	SOD81
V11	BFG25A/X	SOT143
V12	BFG67/X	SOT143
V13	BFG197/X	SOT143
V14	BFG92A/X	SOT143
V15	BFG93A/X	SOT143
V1p	BFT25	SOT23
V2	BFG67W	SOT343
V2	BFQ67W	SOT323
V25	PMBT3640	SOT23
V26	BFG67/XR	SOT143R
V29	BFG92A/XR	SOT143R
V2p	BFQ67	SOT23
V3	BFG25AW/XR	SOT343R
V3	BFG67	SOT143
V30	PMBTH10	SOT23
V31	PMBTH81	SOT23
V33	BFG93A/XR	SOT143R
V35	BFG197/XR	SOT143R
V5	BFG197	SOT143
V5	BFG197W	SOT343
V6	BFG67W/X	SOT343
V7	BFG67W/XR	SOT343R
V8	BFG197W/X	SOT343
V9	BFG197W/XR	SOT343R
W1	BFT92W	SOT323
W1p	BFT92	SOT23
WQ	2PD602Q	SC59
WR	2PD602R	SC59
WS	2PD602S	SC59
White	KTY85-121	SOD80
X1	BFT93W	SOT323
X1p	BFT93	SOT23
XQ	2PD602AQ	SC59
XR	2PD602AR	SC59
XS	2PD602AS	SC59
Y10	BZX84-C27	SOT23
Y11	BZX84-C30	SOT23
Y12	BZX84-C33	SOT23
Y13	BZX84-C36	SOT23
Y14	BZX84-C39	SOT23
Y15	BZX84-C43	SOT23
Y16	BZX84-C47	SOT23
Y17	BZX84-C51	SOT23
Y18	BZX84-C56	SOT23
Y19	BZX84-C62	SOT23
Y1p	BZX84-C11	SOT23
Y20	BZX84-C68	SOT23
Y21	BZX84-C75	SOT23
Y2p	BZX84-C12	SOT23
Y3p	BZX84-C13	SOT23
Y4p	BZX84-C15	SOT23
Y50	BZX84-A2V4	SOT23
Y51	BZX84-A2V7	SOT23
Y52	BZX84-A3V0	SOT23
Y53	BZX84-A3V3	SOT23
Y54	BZX84-A3V6	SOT23
Y55	BZX84-A3V9	SOT23
Y56	BZX84-A4V3	SOT23
Y57	BZX84-A4V7	SOT23
Y58	BZX84-A5V1	SOT23
Y59	BZX84-A5V6	SOT23
Y5p	BZX84-C16	SOT23
Y60	BZX84-A6V2	SOT23
Y61	BZX84-A6V8	SOT23
Y62	BZX84-A7V5	SOT23
Y63	BZX84-A8V2	SOT23
Y64	BZX84-A9V1	SOT23
Y65	BZX84-A10	SOT23
Y66	BZX84-A11	SOT23
Y67	BZX84-A12	SOT23
Y68	BZX84-A13	SOT23
Y69	BZX84-A15	SOT23
Y6p	BZX84-C18	SOT23
Y70	BZX84-A16	SOT23
Y71	BZX84-A18	SOT23
Y72	BZX84-A20	SOT23
Y73	BZX84-A22	SOT23
Y74	BZX84-A24	SOT23
Y75	BZX84-A27	SOT23
Y76	BZX84-A30	SOT23
Y77	BZX84-A33	SOT23
Y78	BZX84-A36	SOT23
Y79	BZX84-A39	SOT23
Y7p	BZX84-C20	SOT23
Y80	BZX84-A43	SOT23
Y81	BZX84-A47	SOT23
Y82	BZX84-A51	SOT23
Y83	BZX84-A56	SOT23
Y84	BZX84-A62	SOT23
Y85	BZX84-A68	SOT23
Y86	BZX84-A75	SOT23
Y8p	BZX84-C22	SOT23
Y9p	BZX84-C24	SOT23
YO	BZX284-C2V4	SOD110
YP	BZX284-C2V7	SOD110
YQ	BZX284-C3V0	SOD110
YQ	2PD601Q	SC59
YR	BZX284-C3V3	SOD110

DISCRETE SEMICONDUCTORS

Marking codes for small devices

marking code	type number	package
YR	2PD601R	SC59
YS	BZX284-C3V6	SOD110
YS	2PD601S	SC59
YT	BZX284-C3V9	SOD110
YU	BZX284-C4V3	SOD110
YV	BZX284-C4V7	SOD110
YW	BZX284-C5V1	SOD110
YX	BZX284-C5V6	SOD110
YY	BZX284-C6V2	SOD110
YZ	BZX284-C6V8	SOD110
Yellow	KTY85-110	SOD80
Z11	BZX84-C2V4	SOT23
Z12	BZX84-C2V7	SOT23
Z13	BZX84-C3V0	SOT23
Z14	BZX84-C3V3	SOT23
Z15	BZX84-C3V6	SOT23
Z16	BZX84-C3V9	SOT23
Z17	BZX84-C4V3	SOT23
Z1p	BZX84-C4V7	SOT23
Z2p	BZX84-C5V1	SOT23
Z3p	BZX84-C5V6	SOT23
Z4p	BZX84-C6V2	SOT23
Z50	BZX84-B2V4	SOT23
Z51	BZX84-B2V7	SOT23
Z52	BZX84-B3V0	SOT23
Z53	BZX84-B3V3	SOT23
Z54	BZX84-B3V6	SOT23
Z55	BZX84-B3V9	SOT23
Z56	BZX84-B4V3	SOT23
Z57	BZX84-B4V7	SOT23
Z58	BZX84-B5V1	SOT23
Z59	BZX84-B5V6	SOT23
Z5p	BZX84-C6V8	SOT23
Z60	BZX84-B6V2	SOT23
Z61	BZX84-B6V8	SOT23
Z62	BZX84-B7V5	SOT23
Z63	BZX84-B8V2	SOT23
Z64	BZX84-B9V1	SOT23
Z65	BZX84-B10	SOT23
Z66	BZX84-B11	SOT23
Z67	BZX84-B12	SOT23
Z68	BZX84-B13	SOT23
Z69	BZX84-B15	SOT23
Z6p	BZX84-C7V5	SOT23
Z70	BZX84-B16	SOT23
Z71	BZX84-B18	SOT23
Z72	BZX84-B20	SOT23
Z73	BZX84-B22	SOT23
Z74	BZX84-B24	SOT23
Z75	BZX84-B27	SOT23
Z76	BZX84-B30	SOT23
Z77	BZX84-B33	SOT23
Z78	BZX84-B36	SOT23
Z79	BZX84-B39	SOT23
Z7p	BZX84-C8V2	SOT23
Z80	BZX84-B43	SOT23
Z81	BZX84-B47	SOT23
Z82	BZX84-B51	SOT23
Z83	BZX84-B56	SOT23
Z84	BZX84-B62	SOT23
Z85	BZX84-B68	SOT23
Z86	BZX84-B75	SOT23
Z8p	BZX84-C9V1	SOT23
Z9p	BZX84-C10	SOT23
ZA	BZX284-C7V5	SOD110
ZB	BZX284-C8V2	SOD110
ZC	BZX284-C9V1	SOD110
ZD	BZX284-C10	SOD110
ZE	BZX284-C11	SOD110
ZF	BZX284-C12	SOD110
ZFJ108	PZFJ108	SOT223
ZFJ109	PZFJ109	SOT223
ZFJ110	PZFJ110	SOT223
ZG	BZX284-C13	SOD110
ZH	BZX284-C15	SOD110
ZI	BZX284-C16	SOD110
ZJ	BZX284-C18	SOD110
ZK	BZX284-C20	SOD110
ZL	BZX284-C22	SOD110
ZM	BZX284-C24	SOD110
ZN	BZX284-C27	SOD110
ZO	BZX284-C30	SOD110
ZP	BZX284-C33	SOD110
ZQ	BZX284-C36	SOD110
ZQ	2PC4081Q	SC70
ZQ	2PD601AQ	SC59
ZR	BZX284-C39	SOD110
ZR	2PC4081R	SC70
ZR	2PD601AR	SC59
ZS	BZX284-C43	SOD110
ZS	2PC4081S	SC70
ZS	2PD601AS	SC59
ZT	BZX284-C47	SOD110
ZT2222A	PZT2222A	SOT223
ZT2907	PZT2907	SOT223
ZT2907A	PZT2907A	SOT223
ZT3904	PZT3904	SOT223
ZT3906	PZT3906	SOT223
ZT5401	PZT5401	SOT223
ZT5551	PZT5551	SOT223
ZTA42	PZTA42	SOT223
ZU	BZX284-C51	SOD110
ZV	BZX284-C56	SOD110
ZW	BZX284-C62	SOD110
ZX	BZX284-C68	SOD110
ZY	BZX284-C75	SOD110
black	BA423AL	SOD80C
black	BAS32L	SOD80C
black	BAS45AL	SOD80C
black	BAV105	SOD80
black	BY505	SOD61
black	BY614	SOD61

Marking codes for small devices

marking code	type number	package
black	BY8424	SOD61
black	BYX100G	SOD88
black	BYX90G	SOD83
black	PMLL4148	SOD80C
black	PMLL4150	SOD80C
black	PMLL4151	SOD80C
black	PMLL4153	SOD80C
black	PMLL4446	SOD80C
black	PMLL4448	SOD80C
black + black	BY8404	SOD61
black + blue	BY8420	SOD61
black + brown	BY8418	SOD61
black + green	BY8406	SOD61
black + grey	BY8416	SOD61
black + lilac	BY8414	SOD61
black + orange	BY8412	SOD61
black + red	BY8408	SOD61
black + violet	BY8410	SOD61
green	BAV100	SOD80C
green	BAV101	SOD80C
green	BAV102	SOD80C
green	BAV103	SOD80C
green on black	BB909B	SOD68
green + red on blk	BB909A	SOD68
grey	BA481	SOD68
grey	BAS81	SOD80C
grey	BAS82	SOD80C
grey	BAS83	SOD80C
grey	BAS85	SOD80C
grey	BAS86	SOD80C
orange	BY584	SOD61
orange	BYX120G	SOD88
orange + black	BY8104	SOD61
orange + green	BY8106	SOD61
orange + grey	BY8116	SOD61
orange + lilac	BY8114	SOD61
orange + orange	BY8112	SOD61
orange + red	BY8108	SOD61
orange + violet	BY8110	SOD61
p01	PDTA143ET	SOT23
p02	PDTC143ET	SOT23
p03	PDTA114ET	SOT23
p04	PDTC114ET	SOT23
p05	PDTA124ET	SOT23
p06	PDTC124ET	SOT23
p07	PDTA144ET	SOT23
p08	PDTC144ET	SOT23
p08	PMBFJ108	SOT23
p09	PDTB114ET	SOT23
p09	PMBFJ109	SOT23
p10	PDTD114ET	SOT23
p10	PMBFJ110	SOT23
p11	PMBFJ111	SOT23
p12	PMBFJ112	SOT23
p13	PMBFJ113	SOT23
p1A	PMBT3904	SOT23
p1A	PXT3904	SOT89
p1B	PMBT2222	SOT23
p1B	PXT2222	SOT89
p1D	PMBTA42	SOT23
p1D	PXTA42	SOT89
p1E	PMBTA43	SOT23
p1E	PXTA43	SOT89
p1F	PMBT5550	SOT23
p1G	PMBTA06	SOT23
p1J	PMBT2369	SOT23
p1K	PMBT6428	SOT23
p1L	PMBT6429	SOT23
p1M	PMBTA13	SOT23
p1N	PMBTA14	SOT23
p1N	PXTA14	SOT89
p1P	PMBT2222A	SOT23
p1P	PXT2222A	SOT89
p1Q	PMBT5088	SOT23
p1R	PMBT5089	SOT23
p2A	PMBT3906	SOT23
p2A	PXT3906	SOT89
p2B	PMBT2907	SOT23
p2B	PXT2907	SOT89
p2D	PMBTA92	SOT23
p2D	PXTA92	SOT89
p2E	PMBTA93	SOT23
p2E	PXTA93	SOT89
p2F	PMBT2907A	SOT23
p2F	PXT2907A	SOT89
p2G	PMBTA56	SOT23
p2H	PMBTA55	SOT23
p2L	PMBT5401	SOT23
p2T	PMBT4403	SOT23
p2T	PXT4403	SOT89
p2U	PMBTA63	SOT23
p2V	PMBTA64	SOT23
p2V	PXTA64	SOT89
p2X	PMBT4401	SOT23
p2X	PXT4401	SOT89
p4F	PMBD353	SOT23
p5A	PMBD6050	SOT23
p5B	PMBD6100	SOT23
p5C	PMBD7000	SOT23
p5D	PMBD914	SOT23
p5G	PMBD352	SOT23
p6A	PMBF4416	SOT23
p6B	PMBF5484	SOT23
p6G	PMBF4393	SOT23
p6H	PMBF5486	SOT23
p6J	PMBF4391	SOT23
p6K	PMBF4392	SOT23
p6M	PMBF5485	SOT23
p6S	PMBFJ176	SOT23
p6W	PMBFJ175	SOT23
p6X	PMBFJ174	SOT23
p6Y	PMBFJ177	SOT23

marking code	type number	package
p8A	PMBZ5226B	SOT23
p8B	PMBZ5227B	SOT23
p8C	PMBZ5228B	SOT23
p8D	PMBZ5229B	SOT23
p8E	PMBZ5230B	SOT23
p8F	PMBZ5231B	SOT23
p8G	PMBZ5232B	SOT23
p8H	PMBZ5233B	SOT23
p8J	PMBZ5234B	SOT23
p8K	PMBZ5235B	SOT23
p8L	PMBZ5236B	SOT23
p8M	PMBZ5237B	SOT23
p8N	PMBZ5238B	SOT23
p8P	PMBZ5239B	SOT23
p8Q	PMBZ5240B	SOT23
p8R	PMBZ5241B	SOT23
p8S	PMBZ5242B	SOT23
p8T	PMBZ5243B	SOT23
p8U	PMBZ5244B	SOT23
p8V	PMBZ5245B	SOT23
p8W	PMBZ5246B	SOT23
p8X	PMBZ5247B	SOT23
p8Y	PMBZ5248B	SOT23
p8Z	PMBZ5249B	SOT23
p9A	PLVA650A	SOT23
p9B	PLVA653A	SOT23
p9C	PLVA656A	SOT23
p9D	PLVA659A	SOT23
p9E	PLVA662A	SOT23
p9F	PLVA665A	SOT23
p9G	PLVA668A	SOT23
p9J	PLVA2650A	SOT23
p9K	PLVA2653A	SOT23
p9L	PLVA2656A	SOT23
p9M	PLVA2659A	SOT23
p9N	PLVA2662A	SOT23
p9O	PLVA2665A	SOT23
p9P	PLVA2668A	SOT23
pA2	PMBD2836	SOT23
pA3	PMBD2835	SOT23
pA5	PMBD2837	SOT23
pA6	PMBD2838	SOT23
pG1	PMBT5551	SOT23
pKX	PMBF170	SOT23
pKZ	PMBF107	SOT23
red	BA682	SOD80
red	BA683	SOD80
red	BY8524	SOD61
red + black	BY8504	SOD61
red + blue	BY8520	SOD61
red + brown	BY8518	SOD61
red + green	BY8506	SOD61
red + gn on black	BB910	SOD68
red + grey	BY8516	SOD61
red + lilac	BY8514	SOD61
red + orange	BY8512	SOD61
red + red	BY8508	SOD61
red + violet	BY8510	SOD61
red + wh on black	BB911/A	SOD68
violet + black	BY8004	SOD61
violet + green	BY8006	SOD61
violet + grey	BY8016	SOD61
violet + lilac	BY8014	SOD61
violet + orange	BY8012	SOD61
violet + red	BY8008	SOD61
violet + violet	BY8010	SOD61
white on black	BB405B	SOD68
white on black	BB417	SOD68
white + green	BB215	SOD80
yellow	BZV55-B10	SOD80C
yellow	BZV55-B11	SOD80C
yellow	BZV55-B12	SOD80C
yellow	BZV55-B13	SOD80C
yellow	BZV55-B15	SOD80C
yellow	BZV55-B16	SOD80C
yellow	BZV55-B18	SOD80C
yellow	BZV55-B20	SOD80C
yellow	BZV55-B22	SOD80C
yellow	BZV55-B24	SOD80C
yellow	BZV55-B27	SOD80C
yellow	BZV55-B2V4	SOD80C
yellow	BZV55-B2V7	SOD80C
yellow	BZV55-B30	SOD80C
yellow	BZV55-B33	SOD80C
yellow	BZV55-B36	SOD80C
yellow	BZV55-B39	SOD80C
yellow	BZV55-B3V0	SOD80C
yellow	BZV55-B3V3	SOD80C
yellow	BZV55-B3V6	SOD80C
yellow	BZV55-B3V9	SOD80C
yellow	BZV55-B43	SOD80C
yellow	BZV55-B47	SOD80C
yellow	BZV55-B4V3	SOD80C
yellow	BZV55-B4V7	SOD80C
yellow	BZV55-B51	SOD80C
yellow	BZV55-B56	SOD80C
yellow	BZV55-B5V1	SOD80C
yellow	BZV55-B5V6	SOD80C
yellow	BZV55-B62	SOD80C
yellow	BZV55-B68	SOD80C
yellow	BZV55-B6V2	SOD80C
yellow	BZV55-B6V8	SOD80C
yellow	BZV55-B75	SOD80C
yellow	BZV55-B7V5	SOD80C
yellow	BZV55-B8V2	SOD80C
yellow	BZV55-B9V1	SOD80C
yellow	BZV55-C10	SOD80C
yellow	BZV55-C11	SOD80C
yellow	BZV55-C12	SOD80C
yellow	BZV55-C13	SOD80C
yellow	BZV55-C15	SOD80C
yellow	BZV55-C16	SOD80C

Marking codes for small devices

marking code	type number	package
yellow	BZV55-C18	SOD80C
yellow	BZV55-C20	SOD80C
yellow	BZV55-C22	SOD80C
yellow	BZV55-C24	SOD80C
yellow	BZV55-C27	SOD80C
yellow	BZV55-C2V4	SOD80C
yellow	BZV55-C2V7	SOD80C
yellow	BZV55-C30	SOD80C
yellow	BZV55-C33	SOD80C
yellow	BZV55-C36	SOD80C
yellow	BZV55-C39	SOD80C
yellow	BZV55-C3V0	SOD80C
yellow	BZV55-C3V3	SOD80C
yellow	BZV55-C3V6	SOD80C
yellow	BZV55-C3V9	SOD80C
yellow	BZV55-C43	SOD80C
yellow	BZV55-C47	SOD80C
yellow	BZV55-C4V3	SOD80C
yellow	BZV55-C4V7	SOD80C
yellow	BZV55-C51	SOD80C
yellow	BZV55-C56	SOD80C
yellow	BZV55-C5V1	SOD80C
yellow	BZV55-C5V6	SOD80C
yellow	BZV55-C62	SOD80C
yellow	BZV55-C68	SOD80C
yellow	BZV55-C6V2	SOD80C
yellow	BZV55-C6V8	SOD80C
yellow	BZV55-C75	SOD80C
yellow	BZV55-C7V5	SOD80C
yellow	BZV55-C8V2	SOD80C
yellow	BZV55-C9V1	SOD80C
yellow	BZV55-F10	SOD80C
yellow	BZV55-F11	SOD80C
yellow	BZV55-F12	SOD80C
yellow	BZV55-F13	SOD80C
yellow	BZV55-F15	SOD80C
yellow	BZV55-F16	SOD80C
yellow	BZV55-F18	SOD80C
yellow	BZV55-F20	SOD80C
yellow	BZV55-F22	SOD80C
yellow	BZV55-F24	SOD80C
yellow	BZV55-F27	SOD80C
yellow	BZV55-F2V4	SOD80C
yellow	BZV55-F2V7	SOD80C
yellow	BZV55-F30	SOD80C
yellow	BZV55-F33	SOD80C
yellow	BZV55-F36	SOD80C
yellow	BZV55-F39	SOD80C
yellow	BZV55-F3V0	SOD80C
yellow	BZV55-F3V3	SOD80C
yellow	BZV55-F3V6	SOD80C
yellow	BZV55-F3V9	SOD80C
yellow	BZV55-F43	SOD80C
yellow	BZV55-F47	SOD80C
yellow	BZV55-F4V3	SOD80C
yellow	BZV55-F4V7	SOD80C
yellow	BZV55-F51	SOD80C
yellow	BZV55-F56	SOD80C
yellow	BZV55-F5V1	SOD80C
yellow	BZV55-F5V6	SOD80C
yellow	BZV55-F62	SOD80C
yellow	BZV55-F68	SOD80C
yellow	BZV55-F6V2	SOD80C
yellow	BZV55-F6V8	SOD80C
yellow	BZV55-F75	SOD80C
yellow	BZV55-F7V5	SOD80C
yellow	BZV55-F8V2	SOD80C
yellow	BZV55-F9V1	SOD80C
yellow	BZV80	SOD80
yellow	BZV81	SOD80
yellow	BZV87-1V4	SOD80
yellow	BZV87-2V0	SOD80
yellow	BZV87-2V6	SOD80
yellow	BZV87-3V2	SOD80
yellow	PMLL5225B	SOD80C
yellow	PMLL5226B	SOD80C
yellow	PMLL5227B	SOD80C
yellow	PMLL5228B	SOD80C
yellow	PMLL5229B	SOD80C
yellow	PMLL5230B	SOD80C
yellow	PMLL5231B	SOD80C
yellow	PMLL5232B	SOD80C
yellow	PMLL5233B	SOD80C
yellow	PMLL5234B	SOD80C
yellow	PMLL5235B	SOD80C
yellow	PMLL5236B	SOD80C
yellow	PMLL5237B	SOD80C
yellow	PMLL5238B	SOD80C
yellow	PMLL5239B	SOD80C
yellow	PMLL5240B	SOD80C
yellow	PMLL5241B	SOD80C
yellow	PMLL5242B	SOD80C
yellow	PMLL5243B	SOD80C
yellow	PMLL5244B	SOD80C
yellow	PMLL5245B	SOD80C
yellow	PMLL5246B	SOD80C
yellow	PMLL5247B	SOD80C
yellow	PMLL5248B	SOD80C
yellow	PMLL5249B	SOD80C
yellow	PMLL5250B	SOD80C
yellow	PMLL5251B	SOD80C
yellow	PMLL5252B	SOD80C
yellow	PMLL5253B	SOD80C
yellow	PMLL5254B	SOD80C
yellow	PMLL5255B	SOD80C
yellow	PMLL5256B	SOD80C
yellow	PMLL5257B	SOD80C
yellow	PMLL5258B	SOD80C
yellow	PMLL5259B	SOD80C
yellow	PMLL5260B	SOD80C
yellow	PMLL5261B	SOD80C
yellow	PMLL5262B	SOD80C

Marking codes for small devices

marking code	type number	package	marking code	type number	package
yellow	PMLL5263B	SOD80C			
yellow	PMLL5264B	SOD80C			
yellow	PMLL5265B	SOD80C			
yellow	PMLL5266B	SOD80C			
yellow	PMLL5267B	SOD80C			
yellow on black	BB809	SOD68			
-03	PDTA114EU	SOT323			
-04	PDTC114EU	SOT323			
-05	PDTA124EU	SOT323			
-06	PDTC124EU	SOT323			
-08	PDTC144EU	SOT323			
-1F	PMST5550	SOT323			
-1J	PMST2369	SOT323			
-1K	PMST6428	SOT323			
-1L	PMST6429	SOT323			
-1P	PMST2222A	SOT323			
-1V	BF820W	SOT323			
-1X	BF822W	SOT323			
-2L	PMST5401	SOT323			
-F8	BF824W	SOT323			
-G1	PMST5551	SOT323			

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
02CZ27	BZX84C27	1A4	BYD13G	1N1095	BYD13J
10D05	1N5059	1A5	BYD13J	1N1096	BYD13J
10D1	1N5059	1A6	BYD13K	1N1100	BYD13D
10D10	BYW56	1A7	BYD13M	1N1101	BYD13D
10D2	1N5059	1F1	BYD33D	1N1102	BYD13G
10D4	1N5060	1F2	BYD33D	1N1103	BYD13G
10D6	1N5061	1F3	BYD33D	1N1104	BYD13J
10D8	1N5062	1F4	BYD33G	1N1105	BYD13J
10DF1	BYV95A	1F5	BYD33J	1N1108	BYD13K
10DF2	BYV95A	1F6	BYD33K	1N1115	BYD13D
10DF4	BYV95B	1F7	BYD33M	1N1116	BYD13D
10DF6	BYV95C	1N1028	BYD13D	1N1117	BYD13G
10DF8	BYV96D	1N1029	BYD13D	1N1118	BYD13G
10EF1	BYV95A	1N1030	BYD13D	1N1119	BYD13J
10EF2	BYV95A	1N1031	BYD13D	1N1120	BYD13J
10MF2	BYG80D	1N1032	BYD13G	1N1124	BYM56A
10MQ040	BYG90-40	1N1033	BYD13G	1N1124A	BYM56A
10TQ030	PBYR1035	1N1034	BYD13D	1N1125	BYM56B
10TQ035	PBYR1035	1N1035	BYD13D	1N1125A	BYD13G
10TQ040	PBYR1040	1N1036	BYD13D	1N1126	BYM56B
10TQ045	PBYR1045	1N1037	BYD13D	1N1126A	BYM56B
11CTQ030	PBYR1535CT	1N1038	BYD13G	1N1127	BYM56C
11CTQ040	PBYR1540CT	1N1039	BYD13G	1N1169	BYD13G
11DF1	BYD73B	1N1040	BYD13D	1N1169A	BYD13G
11DF2	BYD73D	1N1041	BYD13D	1N1170	1N4148
11DF3	BYD73F	1N1042	BYD13D	1N1217	1N5059
11DF4	BYD73G	1N1043	BYD13D	1N1217A	1N5059
11DQ03	1N5818	1N1044	BYD13G	1N1217B	1N5059
11DQ04	1N5819	1N1045	BYD13G	1N1218	1N5059
11EFS1	BYD73B	1N1046	BYD13D	1N1218A	1N5059
11EFS2	BYD73D	1N1047	BYD13D	1N1218B	1N5059
11EFS3	BYD73F	1N1048	BYD13D	1N1219	1N5059
11EFS4	BYD73G	1N1049	BYD13D	1N1219B	1N5059
11EQ03	1N5818	1N1050	BYD13G	1N1220	1N5059
11EQ04	1N5819	1N1051	BYD13G	1N1220A	1N5059
11EQS02L	1N5817	1N1052	1N5059	1N1220B	1N5059
11EQS03	1N5818	1N1053	1N5059	1N1221	1N5060
11EQS04	1N5819	1N1054	1N5059	1N1221A	1N5060
1214-300	RX1214B300Y	1N1055	1N5059	1N1221B	1N5060
1417-12	PZ1418B15U	1N1056	1N5060	1N1222	1N5060
1591	BAV19	1N1081	BYD13D	1N1222A	1N5060
1592	BAV20	1N1081A	1N5059	1N1222B	1N5060
1593	BAV21	1N1082	BYD13D	1N1223	1N5061
15CTQ030	PBYR1535CT	1N1082A	1N5059	1N1223A	1N5061
15CTQ035	PBYR1535CT	1N1083	BYD13G	1N1223B	1N5061
15CTQ040	PBYR1540CT	1N1083A	1N5060	1N1224	1N5061
15CTQ045	PBYR1545CT	1N1084	BYD13G	1N1224A	1N5061
15DF4	BYV95B	1N1084A	1N5060	1N1224B	1N5061
15DF6	BYV95C	1N1085	1N5059	1N1225	1N5062
15DF8	BYV96D	1N1085A	BYM56A	1N1225A	BYD13K
1618-35	PZ1418B30U	1N1086	1N5059	1N1225B	1N5062
1720-20	PZ1721B25U	1N1086A	BYM56A	1N1226	1N5062
1773062	BAS11	1N1087	1N5060	1N1226A	BYD13K
1A1	BYD13D	1N1087A	BYM56B	1N1226B	1N5062
1A2	BYD13D	1N1088	1N5060	1N1227	1N5059
1A3	BYD13D	1N1088A	BYM56B	1N1227A	1N5059

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N1227B	1N5059	1N1539	1N5059	1N1730	BYD11M
1N1228	1N5059	1N1540	1N5059	1N1907	1N5059
1N1228A	1N5059	1N1541	1N5060	1N1908	1N5059
1N1228B	1N5059	1N1542	1N5060	1N1909	1N5059
1N1229	1N5059	1N1543	1N5061	1N1910	1N5060
1N1229A	1N5059	1N1544	1N5061	1N1911	1N5060
1N1229B	1N5059	1N1553	BYD13G	1N1912	1N5061
1N1231B	1N5060	1N1554	BYD13G	1N1913	1N5061
1N1232	1N5060	1N1555	BYD13J	1N1914	1N5062
1N1232A	1N5060	1N1556	BYD13D	1N1915	1N5062
1N1232B	1N5060	1N1557	BYD13D	1N1927	1N5228B
1N1233	1N5061	1N1558	BYD13G	1N1928	1N5230B
1N1233A	1N5061	1N1559	BYD13G	1N1929	1N5232B
1N1233B	1N5061	1N1560	BYD13J	1N1930	1N5235B
1N1234	1N5061	1N1563	1N5059	1N1931	1N5237B
1N1234A	1N5061	1N1563A	1N5059	1N1932	1N5240B
1N1234B	1N5061	1N1564	1N5059	1N1933	1N5242B
1N1235	1N5062	1N1564A	1N5059	1N1934	1N5245B
1N1235A	1N5062	1N1565	1N5060	1N1935	1N5248B
1N1235B	1N5062	1N1565A	1N5060	1N1936	1N5251B
1N1236	1N5062	1N1566	1N5060	1N1954	1N5228B
1N1236A	1N5062	1N1566A	1N5060	1N1955	1N5230B
1N1236B	1N5062	1N1567	1N5061	1N1956	1N5232B
1N1251	BYD11D	1N1568	1N5061	1N1957	1N5235B
1N1252	BYD11D	1N1617	BYM56A	1N1958	1N5237B
1N1253	BYD11D	1N1618	BYM56A	1N1959	1N5240B
1N1254	BYD11G	1N1619	BYM56B	1N1960	1N5242B
1N1255	BYD11G	1N1620	BYM56B	1N1961	1N5245B
1N1255A	BYD11G	1N1644	BYD13D	1N1962	1N5248B
1N1256	BYD11J	1N1645	BYD13D	1N1963	1N5251B
1N1257	BYD11J	1N1646	BYD13D	1N1981	1N5228B
1N1258	BYD11K	1N1647	BYD13D	1N1982	1N5230B
1N1259	BYD11K	1N1648	BYD13G	1N1983	1N5232B
1N1260	BYD11M	1N1649	BYD13G	1N1984	1N5235B
1N1261	BYD11M	1N1650	BYD13G	1N1985	1N5237B
1N1374	1N5229B	1N1651	BYD13G	1N1986	1N5240B
1N1406	BYD11J	1N1652	BYD13J	1N1987	1N5242B
1N1407	BYD11K	1N1653	BYD13J	1N1988	1N5245B
1N1408	BYD11M	1N1692	BYD13D	1N1989	1N5248B
1N1415	BYD13G	1N1693	BYD13D	1N1990	1N5251B
1N1440	BYD13D	1N1694	BYD13G	1N2013	BYD11D
1N1441	BYD13G	1N1695	BYD13G	1N2014	BYD11D
1N1443A	BYD13M	1N1696	BYD13J	1N2015	BYD11D
1N1446	1N5059	1N1697	BYD13J	1N2016	BYD11D
1N1447	1N5059	1N1701	BYD11D	1N2017	BYD11G
1N1448	1N5060	1N1702	BYD11D	1N2018	BYD11G
1N1449	1N5060	1N1703	BYD11D	1N2019	BYD11G
1N1450	1N5059	1N1704	BYD11G	1N2020	BYD11G
1N1451	1N5059	1N1705	BYD11G	1N2069	BYD13D
1N1452	1N5060	1N1706	BYD11J	1N2069A	BYD13D
1N1453	1N5060	1N1707	BYD11D	1N2070	BYD13G
1N1490	BYD13G	1N1708	BYD11D	1N2070A	BYD13G
1N1491	BYD13J	1N1709	BYD11D	1N2071	BYD13J
1N1492	BYD13J	1N1710	BYD11G	1N2071A	BYD13J
1N1537	1N5059	1N1711	BYD11G	1N2072	BYD13D
1N1538	1N5059	1N1712	BYD11J	1N2073	BYD13D

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N2074	BYD13D	1N2292A	BYD13G	1N2524	BYM56A
1N2075	BYD13D	1N2293	BYD13G	1N2525	BYM56A
1N2076	BYD13G	1N2293A	BYD13G	1N2526	BYM56A
1N2077	BYD13G	1N2348	BYM56A	1N2527	BYM56B
1N2078	BYD13G	1N2349	BYM56A	1N2528	BYM56B
1N2079	BYD13J	1N2350	BYM56A	1N2529	BYM56C
1N2080	BYD11D	1N2372	BYD11M	1N2530	BYM56C
1N2081	BYD11D	1N2373	BYD11J	1N2531	BYM56D
1N2082	BYD11D	1N2374	BYD11M	1N2532	BYM56D
1N2083	BYD11G	1N2390	1N5059	1N2535	BYM56A
1N2084	BYD11G	1N2391	1N5059	1N2536	BYM56A
1N2085	BYD11J	1N2392	1N5059	1N2537	BYM56A
1N2086	BYD11J	1N2393	1N5060	1N2538	BYM56B
1N2090	BYD13D	1N2394	1N5060	1N2539	BYM56B
1N2091	BYD13D	1N2395	1N5061	1N254	BYD11D
1N2092	BYD13D	1N2396	1N5061	1N2540	BYM56C
1N2093	BYD13G	1N2397	1N5062	1N2541	BYM56C
1N2094	BYD13G	1N2398	1N5062	1N2542	BYM56D
1N2095	BYD13J	1N2399	1N5059	1N2543	BYM56D
1N2096	BYD13J	1N2400	1N5059	1N2546	BYM56A
1N2103	BYD13D	1N2402	1N5060	1N2547	BYM56A
1N2104	BYD13D	1N2403	1N5060	1N2548	BYM56A
1N2105	BYD13D	1N2404	1N5061	1N2549	BYM56B
1N2106	BYD13G	1N2405	1N5061	1N255	BYD11G
1N2107	BYD13G	1N2406	1N5062	1N2550	BYM56B
1N2108	BYD13J	1N2407	1N5062	1N2551	BYM56C
1N2109	1N5059	1N2408	1N5059	1N2552	BYM56C
1N2115	BYD11G	1N2409	1N5059	1N2553	BYM56D
1N2116	BYD13G	1N2410	1N5059	1N2554	BYM56D
1N2117	1N5062	1N2411	1N5060	1N256	BYD11J
1N220	BYD11G	1N2412	1N5060	1N2609	BYD13D
1N221	BYD11G	1N2413	1N5061	1N2610	BYD13D
1N2216	BYD13D	1N2414	1N5061	1N2611	BYD13D
1N2217	BYD13D	1N2415	1N5062	1N2612	BYD13G
1N2218	BYD13J	1N2416	1N5062	1N2613	BYD13G
1N2219	BYD13J	1N2417	1N5059	1N2614	BYD13J
1N2220	BYD13J	1N2418	1N5059	1N2615	BYD13J
1N2221	BYD13D	1N2419	1N5059	1N2616	BYD13K
1N2222	BYD13K	1N2420	1N5060	1N2617	BYD13M
1N2222A	BYD13K	1N2421	1N5060	1N2638	BYD13D
1N2223	BYD13K	1N2422	1N5061	1N2641	BYD13D
1N2223A	BYD13K	1N2423	1N5061	1N2644	BYD13G
1N2224	BYD13M	1N2424	1N5062	1N2647	BYD13G
1N2224A	BYD13M	1N2425	1N5062	1N2650	BYD13J
1N2225	BYD13M	1N2482	BYD13D	1N2653	BYD13K
1N2225A	BYD13M	1N2483	BYD13G	1N2669	BYM56A
1N2228	BYM56A	1N2484	BYD13J	1N2673	BYM56A
1N2229	BYM56A	1N2485	1N5059	1N2677	BYM56B
1N2270	BYD13J	1N2486	1N5060	1N2681	BYM56B
1N2271	BYD13J	1N2487	1N5060	1N2685	BYM56C
1N2289	BYD13D	1N2488	1N5061	1N2687	BYM56D
1N2289A	BYD13D	1N2489	1N5061	1N2702	BYM56A
1N2290	BYM56A	1N2501	BYD11K	1N2705	BYM56A
1N2291	BYD13D	1N2502	BYD11M	1N2708	BYM56B
1N2291A	BYD13G	1N2505	BYD11K	1N2711	BYM56B
1N2292	BYD13G	1N2506	BYD11M	1N2714	BYM56C

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N2717	BYM56D	1N3074	BYD11D	1N3240	BYD13G
1N2725	BYM56A	1N3075	BYD11D	1N3241	BYD13J
1N2728	BYM56A	1N3076	BYD11G	1N3242	BYD13K
1N2731	BYM56B	1N3077	BYD11G	1N3243	BYD13M
1N2734	BYM56B	1N3078	BYD11G	1N3246	BYD13D
1N2737	BYM56C	1N3079	BYD11G	1N3247	BYD13D
1N2738	BYM56D	1N3080	BYD11J	1N3248	BYD13D
1N2740	BYM56A	1N3081	BYD11J	1N3249	BYD13G
1N2742	BYM56A	1N3082	BYD11D	1N324A	BYD11D
1N2744	BYM56B	1N3083	BYD11G	1N325	BYD11D
1N2746	BYM56B	1N3084	BYD11J	1N3250	BYD13J
1N2748	BYM56C	1N3106	BYD13K	1N3251	BYD13K
1N2749	BYM56D	1N3124	1N4151	1N3252	BYD13M
1N2750	BYM56A	1N3146	1N914	1N3253	BYD13D
1N2753	BYM56A	1N3147	1N4448	1N3254	BYD13G
1N2756	BYM56B	1N316	BYD11D	1N3255	BYD13J
1N2759	BYM56B	1N316A	BYD11D	1N3256	BYD13K
1N2762	BYM56C	1N317	BYD11D	1N3258	1N4448
1N2763	BYM56D	1N317A	BYD11D	1N325A	BYD11D
1N2772	BYD13K	1N318	BYD11D	1N327	BYD11J
1N2773	BYD13K	1N3181	1N5237B	1N3277	BYD13D
1N2774	BYD13M	1N3183	BYD11G	1N3278	BYD13G
1N2775	BYD13M	1N3184	BYD11J	1N3279	BYD13J
1N2847	BYD13D	1N3185	BYD11K	1N327A	BYD11J
1N2848	BYD13D	1N3186	BYD11M	1N328	BYD11M
1N2849	BYD13G	1N3189	BYD13D	1N3280	BYD13K
1N2850	BYD13G	1N318A	BYD11D	1N3281	BYD13M
1N2851	BYD13J	1N319	BYD11G	1N3282	BYD11M
1N2852	BYD13J	1N3190	BYD13G	1N328A	BYD11M
1N2858	BYD13D	1N3191	BYD13J	1N329	BYD11M
1N2858A	BYD13D	1N3193	BYD13D	1N329A	BYD11M
1N2859	BYD13D	1N3194	BYD13G	1N332	BYD11G
1N2859A	BYD13D	1N3195	BYD13J	1N333	BYD11G
1N2860	BYD13D	1N3196	BYD11K	1N334	BYD11G
1N2860A	BYD13D	1N3197	1N4148	1N335	BYD11G
1N2861	BYD13G	1N319A	BYD11G	1N336	BYD11D
1N2861A	BYD13G	1N320	BYD11J	1N337	BYD11D
1N2862	BYD13G	1N3206	1N4148	1N339	BYD11D
1N2862A	BYD13G	1N320A	BYD11J	1N340	BYD11D
1N2863	BYD13J	1N321	BYD11M	1N341	BYD11G
1N2863A	BYD13J	1N321A	BYD11M	1N342	BYD11G
1N2864	BYD13J	1N322	BYD11M	1N343	BYD11G
1N2864A	BYD13J	1N3225	1N4148	1N344	BYD11G
1N2865	BYD13M	1N3227	BYD11D	1N345	BYD11D
1N2878	BYD11K	1N3228	BYD11D	1N346	BYD11D
1N2879	BYD11K	1N3229	BYD11G	1N3467	1N4446
1N2880	BYD11M	1N322A	BYD11M	1N3468	1N4446
1N2881	BYD11M	1N323	BYD11D	1N347	BYD13D
1N2882	BYD11M	1N3230	BYD11J	1N3471	1N4448
1N2883	BYD11M	1N3231	BYD11K	1N348	BYD11D
1N3064	1N4148	1N3232	BYD11M	1N3486	BYD11M
1N3067	1N4148	1N3237	BYD13D	1N349	BYD11D
1N3068	1N4148	1N3238	BYD13D	1N3536	BAV19
1N3069	1N4148	1N3239	BYD13D	1N3544	BYD13D
1N3072	BYD11D	1N323A	BYD11D	1N3545	BYD13D
1N3073	BYD11D	1N324	BYD11D	1N3546	BYD13G

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N3547	BYD13G	1N3731	1N4153	1N4011	BYD13M
1N3548	BYD13J	1N3748	BYD13D	1N4088	1N4148
1N3549	BYD13J	1N3749	BYD13G	1N4089	1N5060
1N3563	BYD11M	1N3750	BYD13J	1N4139	BYM56A
1N3564	1N4448	1N3751	BYD13K	1N4140	BYM56A
1N3567	1N4448	1N3752	BYD13M	1N4141	BYM56A
1N3569	BYM56A	1N3753	1N4148	1N4142	BYM56B
1N3570	BYM56A	1N3754	BYD13D	1N4143	BYM56C
1N3571	BYM56B	1N3755	BYD13D	1N4147	1N914
1N3572	BYM56B	1N3756	BYD13G	1N4148	1N4148
1N3573	BYM56C	1N3757	BYD13D	1N4150	1N4150
1N3574	BYM56C	1N3758	BYD13G	1N4151	1N4151
1N3575	1N914	1N3759	BYD13J	1N4153	1N4153
1N3593	1N4148	1N3760	BYD13K	1N4154	1N914
1N3595	BAS45	1N3761	BYD13M	1N417	1N4448
1N3600	1N4150	1N3864	BAV20	1N418	1N4148
1N3602	1N4151	1N3865	1N4148	1N4245	1N5059
1N3603	1N4151	1N3866	BYD13D	1N4245GP	BYD13D
1N3604	1N4151	1N3867	BYD13G	1N4246	1N5060
1N3606	1N4153	1N3868	BYD13J	1N4246GP	BYD13G
1N3607	1N4151	1N3869	BYD11M	1N4247	1N5061
1N3609	1N4153	1N392	1N4148	1N4247GP	BYD13J
1N3611	1N5059	1N3938	1N5059	1N4248	1N5062
1N3611	BYD13D	1N3939	1N5060	1N4248GP	BYD13K
1N3611GP	BYD13D	1N3940	1N5061	1N4249	BYW56
1N3612	1N5060	1N3941	1N5062	1N4249GP	BYD13M
1N3612	BYD13G	1N3953	1N4148	1N4250	BYD11K
1N3612GP	BYD13G	1N3954	1N4150	1N4251	BYD11M
1N3613	1N5061	1N3957	BYD13M	1N4308	1N4150
1N3613	BYD13J	1N3957GP	BYD13M	1N4313	1N4151
1N3613GP	BYD13J	1N3981	BYM56A	1N4314	1N4150
1N3614	1N5062	1N3982	BYM56B	1N4319	1N4151
1N3614	BYD13K	1N3983	BYM56C	1N432	1N4148
1N3614GP	BYD13K	1N4000	1N4001ID	1N4322	1N4150
1N362	BYD11G	1N4001	1N4001ID	1N432A	1N4148
1N362A	BYD11G	1N4001GP	1N4001ID	1N432B	1N4448
1N363	BYD11J	1N4001ID	1N4001ID	1N435	1N4148
1N3639	BYD13D	1N4001P	1N4001ID	1N4361	BYD13M
1N363A	BYD11J	1N4002	1N4002ID	1N4365	BYD13D
1N364	BYD11M	1N4002GP	1N4002ID	1N4366	BYD13G
1N3640	BYD13G	1N4002P	1N4002ID	1N4367	BYD13G
1N3641	BYD13J	1N4003	1N4003ID	1N4368	BYD13J
1N3642	BYD13K	1N4003GP	1N4003ID	1N4369	BYD13J
1N3645	BYX120G	1N4003P	1N4003ID	1N4373	1N4148
1N3646	BYX120G	1N4004	1N4004ID	1N4375	1N4153
1N3647	BYX120G	1N4004GP	1N4004ID	1N4383	1N5059
1N3649	BYD13K	1N4004P	1N4004ID	1N4383GP	1N5059
1N364A	BYD11M	1N4005	1N4005ID	1N4384	1N5060
1N365	BYD11M	1N4005GP	1N4005ID	1N4384GP	1N5060
1N3654	1N4448	1N4005P	1N4005ID	1N4385	1N5061
1N3656	BYD13D	1N4006	1N4006ID	1N4385GP	1N5061
1N3657	BYD13G	1N4006GP	1N4006ID	1N4389	1N4148
1N3658	BYD13J	1N4006P	1N4006ID	1N440	BYD11D
1N365A	BYD11M	1N4007	1N4007ID	1N440B	BYD13D
1N3722	1N4148	1N4007GP	1N4007ID	1N441	BYD11D
1N3723	BYD13M	1N4007P	1N4007ID	1N441B	BYD13D

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N442	BYD11G	1N4719	BYM56A	1N4935GP	BYD33D
1N442B	BYD13G	1N4720	BYM56A	1N4936	BYD33G
1N443	BYD11G	1N4721	BYM56A	1N4936GP	BYD33G
1N443B	BYD13G	1N4722	BYM56B	1N4937	BYD33J
1N444	BYD11J	1N4723	BYM56C	1N4937GP	BYD33J
1N4442	1N914	1N4728A	1N4728A	1N4942	BYD33D
1N4443	1N4148	1N4729A	1N4729A	1N4942GP	BYD33D
1N4445	1N4151	1N4730A	1N4730A	1N4942L	BYD33D
1N4446	1N4446	1N4731A	1N4731A	1N4943	BYD33G
1N4447	1N4446	1N4732A	1N4732A	1N4944	BYD33G
1N4448	1N4448	1N4733A	1N4733A	1N4944GP	BYD33G
1N444B	BYD13J	1N4734A	1N4734A	1N4944L	BYD33G
1N445	BYD11J	1N4735A	1N4735A	1N4945	BYD33J
1N4450	1N4150	1N4736A	1N4736A	1N4946	BYD33J
1N4451	1N4151	1N4737A	1N4737A	1N4946GP	BYD33J
1N4453	1N4448	1N4738A	1N4738A	1N4946L	BYD33J
1N4454	1N4148	1N4739A	1N4739A	1N4947	BYD33K
1N4456	1N4150	1N4740A	1N4740A	1N4947GP	BYD33K
1N4457	1N4150	1N4741A	1N4741A	1N4947L	BYD33K
1N445B	BYD13J	1N4742A	1N4742A	1N4948	BYD33M
1N450	1N4151	1N4743A	1N4743A	1N4948GP	BYD33M
1N4514	1N5062	1N4744A	1N4744A	1N4948L	BYD33M
1N4517	1N5069	1N4745A	1N4745A	1N4950	1N4150
1N452	1N4448	1N4746A	1N4746A	1N4957	BZW03-C9V1
1N4531	1N4531	1N4747A	1N4747A	1N4958	BZW03-C10
1N4532	1N4532	1N4748A	1N4748A	1N4959	BZW03-C11
1N4534	1N914	1N4749A	1N4749A	1N4960	BZW03-C12
1N4536	1N914	1N478	1N4148	1N4961	BZW03-C13
1N4547	1N4151	1N479	1N4148	1N4962	BZW03-C15
1N4548	1N914	1N480	1N4148	1N4963	BZW03-C16
1N456	BAV18	1N4816	1N5059	1N4964	BZW03-C18
1N456A	BAV18	1N4817	1N5059	1N4965	BZW03-C20
1N457	BAV19	1N4818	1N5059	1N4966	BZW03-C22
1N457A	BAV19	1N4819	1N5060	1N4967	BZW03-C24
1N457M	BAV19	1N482	1N914	1N4968	BZW03-C27
1N458	BAV20	1N4820	1N5060	1N4969	BZW03-C30
1N4585GP	1N5062	1N4821	1N5061	1N497	1N4448
1N4586	1N5062	1N4822	1N5061	1N4970	BZW03-C33
1N4586	BYW56	1N4827	1N4448	1N4971	BZW03-C36
1N4586GP	BYW56	1N482A	1N914	1N4972	BZW03-C39
1N458A	BAV20	1N482B	1N914	1N4973	BZW03-C43
1N458M	BAV20	1N482C	1N914	1N4974	BZW03-C47
1N459	BAV21	1N483	1N914	1N4975	BZW03-C51
1N459A	BAV21	1N483A	1N914	1N4976	BZW03-C56
1N459M	BAV21	1N483B	1N914	1N4977	BZW03-C62
1N460	1N4148	1N483C	1N914	1N4978	BZW03-C68
1N4606	BAV10	1N4861	BAV19	1N4979	BZW03-C75
1N4607	BAV10	1N4862	BAV19	1N498	1N4448
1N4608	BAV10	1N4863	1N4148	1N4980	BZW03-C82
1N460A	1N4148	1N4864	1N4151	1N4981	BZW03-C91
1N460B	1N4448	1N490	1N4148	1N4982	BZW03-C100
1N461	1N914	1N4933	BYD33D	1N4983	BZW03-C110
1N4610	1N4150	1N4933GP	BYD33D	1N4984	BZW03-C120
1N461A	1N914	1N4934	BYD33D	1N499	1N4448
1N462	1N914	1N4934GP	BYD33D	1N4997	BYM56A
1N462A	1N914	1N4935	BYD33D	1N4998	BYM56A

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N4999	BYM56A	1N5218	1N5062	1N5244	1N5244B
1N500	1N4448	1N5225B	1N5225B	1N5244A	1N5244B
1N5000	BYM56B	1N5226	1N5226B	1N5244B	1N5244B
1N5001	BYM56C	1N5226A	1N5226B	1N5245	1N5245B
1N5002	BYM56D	1N5226B	1N5226B	1N5245A	1N5245B
1N5004	BYD13D	1N5227	1N5227B	1N5245B	1N5245B
1N5005	BYD13D	1N5227A	1N5227B	1N5246	1N5246B
1N5006	BYD13G	1N5227B	1N5227B	1N5246A	1N5246B
1N5007	BYD13J	1N5228	1N5228B	1N5246B	1N5246B
1N501	1N4448	1N5228A	1N5228B	1N5247	1N5247B
1N5052	1N5062	1N5228B	1N5228B	1N5247A	1N5247
1N5053	1N5062	1N5229	1N5229B	1N5247B	1N5247
1N5054	BYW56	1N5229A	1N5229B	1N5248	1N5248B
1N5055	BYD13D	1N5229B	1N5229B	1N5248A	1N5248B
1N5056	BYD13D	1N5230	1N5230B	1N5248B	1N5248B
1N5057	BYD13G	1N5230A	1N5230B	1N5249	1N5249B
1N5058	BYD13G	1N5230B	1N5230B	1N5249A	1N5249B
1N5059	1N5059	1N5231	1N5231B	1N5249B	1N5249B
1N5059GP	1N5059	1N5231A	1N5231B	1N5250	1N5250B
1N5060	1N5060	1N5231B	1N5231B	1N5250A	1N5250B
1N5060GP	1N5060	1N5232	1N5232B	1N5250B	1N5250B
1N5061	1N5061	1N5232A	1N5232B	1N5251	1N5251B
1N5061GP	1N5061	1N5232B	1N5232B	1N5251A	1N5251B
1N5062	1N5062	1N5233	1N5233B	1N5251B	1N5251B
1N5062GP	1N5062	1N5233A	1N5233B	1N5252	1N5252B
1N5171	BYM56A	1N5233B	1N5233B	1N5252A	1N5252B
1N5172	BYM56A	1N5234	1N5234B	1N5252B	1N5252B
1N5173	BYM56B	1N5234A	1N5234B	1N5253	1N5253B
1N5174	BYM56B	1N5234B	1N5234B	1N5253A	1N5253B
1N5175	BYM56C	1N5235	1N5235B	1N5253B	1N5253B
1N5176	BYM56C	1N5235A	1N5235B	1N5254	1N5254B
1N5185	BYW95A	1N5235B	1N5235B	1N5254A	1N5254B
1N5186	BYW95A	1N5236	1N5236B	1N5254B	1N5254B
1N5186	BYW96A	1N5236A	1N5236B	1N5256	1N5256B
1N5187	BYW95A	1N5236B	1N5236B	1N5256A	1N5256B
1N5188	BYW95B	1N5237	1N5237B	1N5256B	1N5256B
1N5189	BYW95C	1N5237A	1N5237B	1N5257	1N5257B
1N5190	BYW95C	1N5237B	1N5237B	1N5257A	1N5257B
1N5194	1N914	1N5238	1N5238B	1N5257B	1N5257B
1N5197	BYM56A	1N5238A	1N5238B	1N5258	1N5258B
1N5198	BYM56A	1N5238B	1N5238B	1N5258A	1N5258B
1N5199	BYM56A	1N5239	1N5239B	1N5258B	1N5258B
1N5200	BYM56B	1N5239A	1N5239B	1N5259	1N5259B
1N5201	BYM56C	1N5239B	1N5239B	1N5259A	1N5259B
1N5206	1N5061	1N5240	1N5240B	1N5259B	1N5259B
1N5207	BYM56C	1N5240A	1N5240B	1N5260	1N5260B
1N5209	BAV20	1N5240B	1N5240B	1N5260A	1N5260B
1N520B	BAV19	1N5241	1N5241B	1N5260B	1N5260B
1N5210	BAV21	1N5241A	1N5241B	1N5261	1N5261B
1N5211	1N5059	1N5241B	1N5241B	1N5261A	1N5261B
1N5212	1N5060	1N5242	1N5242B	1N5261B	1N5261B
1N5213	1N5061	1N5242A	1N5242B	1N5262	1N5262B
1N5214	1N5062	1N5242B	1N5242B	1N5262A	1N5262B
1N5215	1N5059	1N5243	1N5243B	1N5262B	1N5262B
1N5216	1N5060	1N5243A	1N5243B	1N5263	1N5263B
1N5217	1N5061	1N5243B	1N5243B	1N5263A	1N5263B

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N5263B	1N5263B	1N5374A	BZW03-C75	1N5416CB-422	BYM36A
1N5264	1N5264B	1N5376A	BZW03-C91	1N5416L	BYM56A
1N5264A	1N5264B	1N5377A	BZW03-C91	1N5417	BYW95A
1N5264B	1N5264B	1N5378A	BZW03-C100	1N5417CB-422	BYM36A
1N5265	1N5265B	1N5379A	BZW03-C110	1N5417L	BYM36A
1N5265A	1N5265B	1N538	BYD13D	1N5418	BYW95B
1N5265B	1N5265B	1N5380A	BZW03-C120	1N5418CB-422	BYM36B
1N5266	1N5266B	1N5381A	BZW03-C130	1N5418L	BYM36B
1N5266A	1N5266B	1N5382A	BZW03-C150	1N5419	BYW95C
1N5266B	1N5266B	1N5383A	BZW03-C150	1N5419CB-422	BYW95C
1N5267	1N5267B	1N5384A	BZW03-C160	1N5419L	BYW95C
1N5267A	1N5267B	1N5385A	BZW03-C180	1N5420	BYW95C
1N5267B	1N5267B	1N5386A	BZW03-C180	1N5420CB-422	BYW95C
1N530	BYD11D	1N5387A	BZW03-C200	1N5420L	BYW95C
1N531	BYD11D	1N5388A	BZW03-C200	1N5427	1N4148
1N5315	1N4153	1N539	BYD13G	1N5433	BYD31K
1N5316	1N4153	1N5391	1N5059	1N5434	BYD31K
1N5317	1N4150	1N5391G	1N5059	1N547	BYD13J
1N5318	1N4150	1N5391GP	1N5059	1N548	BYD11M
1N532	BYD11G	1N5392	1N5059	1N550	BYD11D
1N533	BYD11G	1N5392G	1N5059	1N551	BYD11D
1N534	BYD11J	1N5392GP	1N5059	1N552	BYD11G
1N5343A	BZW03-C7V5	1N5393	1N5059	1N553	BYD11G
1N5344A	BZW03-C8V2	1N5393G	1N5059	1N554	BYD11J
1N5345A	BZW03-C9V1	1N5393GP	1N5059	1N555	BYD11J
1N5346A	BZW03-C9V1	1N5394	1N5060	1N5550	BYM56A
1N5347A	BZW03-C10	1N5394G	1N5060	1N5551	BYM56B
1N5348A	BZW03-C11	1N5394GP	1N5060	1N5552	BYM56C
1N5349A	BZW03-C12	1N5395	1N5060	1N5553	BYM56D
1N535	BYD11J	1N5395G	1N5060	1N5554	BYM56E
1N5350A	BZW03-C13	1N5395GP	1N5060	1N560	BYD11K
1N5351A	BZW03-C15	1N5396	1N5061	1N5605	BAV19
1N5352A	BZW03-C15	1N5396G	1N5061	1N5606	BAV20
1N5353A	BZW03-C16	1N5396GP	1N5061	1N561	BYD11M
1N5354A	BZW03-C18	1N5397	1N5061	1N5614	1N5059
1N5355A	BZW03-C18	1N5397G	1N5061	1N5615	BYV95A
1N5356A	BZW03-C20	1N5397GP	1N5061	1N5615CB-420	BYV36A
1N5357A	BZW03-C20	1N5398	1N5062	1N5615GP	BYV95A
1N5358A	BZW03-C22	1N5398G	1N5062	1N5615L	BYV36A
1N5359A	BZW03-C24	1N5398GP	1N5062	1N5616	1N5060
1N536	BYD13D	1N5399	BYW56	1N5617	BYV95B
1N5360A	BZW03-C24	1N5399G	BYW56	1N5617CB-420	BYV36B
1N5361A	BZW03-C27	1N5399GP	BYW56	1N5617GP	BYV95B
1N5362A	BZW03-C27	1N5400	BYM56A	1N5617L	BYV36B
1N5363A	BZW03-C30	1N5401	BYM56A	1N5618	1N5061
1N5364A	BZW03-C33	1N5402	BYM56A	1N5619	BYV95C
1N5365A	BZW03-C36	1N5403	BYM56B	1N5619CB-420	BYV95C
1N5366A	BZW03-C39	1N5404	BYM56B	1N5619GP	BYV95C
1N5367A	BZW03-C43	1N5405	BYM56C	1N5619L	BYV95C
1N5368A	BZW03-C47	1N5406	BYM56C	1N562	BYD11K
1N5369A	BZW03-C51	1N5407	BYM56D	1N5620	1N5062
1N537	BYD13D	1N5408	BYM56E	1N5621	BYV96D
1N5370A	BZW03-C56	1N5415	BYW95A	1N5621CB-420	BYV96D
1N5371A	BZW03-C62	1N5415CB-422	BYM36A	1N5621GP	BYV96D
1N5372A	BZW03-C62	1N5415L	BYM36A	1N5621L	BYV96D
1N5373A	BZW03-C68	1N5416	BYW95A	1N5622	BYW56

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N5623	BYV96E	1N5945A	BZD23-C68	1N6001B	1N5241B
1N5623CB-420	BYV96E	1N5946A	BZD23-C75	1N6002	1N5242B
1N5623GP	BYV96E	1N5947A	BZD23-C82	1N6002A	1N5242B
1N5623L	BYV96E	1N5948A	BZD23-C91	1N6002B	1N5242B
1N5624	BYM56A	1N5949A	BZD23-C100	1N6003	1N5243B
1N5624GP	BYM56A	1N5950A	BZD23-C110	1N6003A	1N5243B
1N5625	BYM56B	1N5951A	BZD23-C120	1N6003B	1N5243B
1N5625GP	BYM56B	1N5952A	BZD23-C130	1N6004	1N5245B
1N5626	BYM56C	1N5953A	BZD23-C150	1N6004A	1N5245B
1N5626GP	BYM56C	1N5954A	BZD23-C160	1N6004B	1N5245B
1N5627	BYM56D	1N5955A	BZD23-C180	1N6005	1N5246B
1N5627GP	BYM56D	1N5956A	BZD23-C200	1N6005A	1N5246B
1N563	BYD11M	1N596	BYD11J	1N6005B	1N5246B
1N5711	BAT83	1N597	BYD11K	1N6006	1N5248B
1N5712	BAT81	1N598	BYD11M	1N6006A	1N5248B
1N5713	1N4446	1N5988	1N5226B	1N6006B	1N5248B
1N5720	1N4448	1N5988A	1N5226B	1N6007	1N5250B
1N5721	1N4448	1N5989	1N5227B	1N6007A	1N5250B
1N5726	BYD71B	1N5989A	1N5227B	1N6007B	1N5250B
1N5767	1N4448	1N5989B	1N5227B	1N6008	1N5251B
1N5802	BYV27-50	1N599	BYD11D	1N6008A	1N5251B
1N5803	BYV27-100	1N5990A	1N5228B	1N6008B	1N5251B
1N5804	BYV27-100	1N5990B	1N5228B	1N6009	1N5252B
1N5805	BYV27-150	1N5991	1N5228B	1N6009A	1N5252B
1N5806	BYV27-150	1N5991A	1N5229B	1N6009B	1N5252B
1N5807	BYV28-50	1N5991B	1N5229B	1N600A	BYD11D
1N5808	BYV28-100	1N5992	1N5230B	1N601	BYD11D
1N5809	BYV28-100	1N5992A	1N5230B	1N6010	1N5254B
1N5810	BYV28-150	1N5992B	1N5230B	1N6010A	1N5254B
1N5811	BYV28-150	1N5993	1N5231B	1N6010B	1N5254B
1N5820	1N5820ID	1N5993A	1N5231B	1N6011	1N5256B
1N5821	1N5821ID	1N5993B	1N5231B	1N6011A	1N5256B
1N5822	1N5822ID	1N5994	1N5132B	1N6011B	1N5256B
1N5922A	BZD23-C7V5	1N5994A	1N5232B	1N6012	1N5257B
1N5923A	BZD23-C8V2	1N5995	1N5234B	1N6012A	1N5257B
1N5924A	BZD23-C9V1	1N5995A	1N5234B	1N6012B	1N5257B
1N5925A	BZD23-C10	1N5995B	1N5234B	1N601A	BYD11D
1N5926A	BZD23-C11	1N5996	1N5235B	1N602	BYD11D
1N5927A	BZD23-C12	1N5996A	1N5235B	1N602A	BYD11D
1N5928A	BZD23-C13	1N5996B	1N5235B	1N603	BYD11G
1N5929A	BZD23-C15	1N5997	1N5236B	1N6039	1N4148
1N5930A	BZD23-C16	1N5997A	1N5236B	1N603A	BYD11G
1N5931A	BZD23-C18	1N5997B	1N5236B	1N604	BYD11G
1N5932A	BZD23-C20	1N5998	1N5237B	1N604A	BYD11G
1N5933A	BZD23-C22	1N5998A	1N5237B	1N605	BYD11J
1N5934A	BZD23-C24	1N5998B	1N5237B	1N605A	BYD11J
1N5935A	BZD23-C27	1N5999	1N5239B	1N606	BYD11J
1N5936A	BZD23-C30	1N5999A	1N5239B	1N606A	BYD11J
1N5937A	BZD23-C33	1N5999B	1N5239B	1N607	BYD13D
1N5938A	BZD23-C36	1N599A	BYD11D	1N6073	BYV27-50
1N5939A	BZD23-C39	1N600	BYD11D	1N6074	BYV27-100
1N5940A	BZD23-C43	1N6000	1N5240B	1N6075	BYV27-150
1N5941A	BZD23-C47	1N6000A	1N5240B	1N607A	BYD13D
1N5942A	BZD23-C51	1N6000B	1N5240B	1N608	BYD13D
1N5943A	BZD23-C56	1N6001	1N5241B	1N608A	BYD13D
1N5944A	BZD23-C62	1N6001A	1N5241B	1N609	BYD13D

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N609A	BYD13D	1N687	BYD11J	1N763	1N5238B
1N610	BYD13D	1N689	BYD11J	1N764	1N5238B
1N610A	BYD13D	1N695	1N4148	1N765	1N5240B
1N611	BYD13G	1N695A	1N4148	1N766	1N5243B
1N611A	BYD13G	1N696	1N4148	1N767	1N5246B
1N612	BYD13G	1N699	1N4448	1N768	1N5249B
1N612A	BYD13G	1N703	1N5227B	1N769	1N5252B
1N613	BYD13J	1N703A	1N5227B	1N771	1N4448
1N613A	BYD13J	1N704	1N5229B	1N772	1N4448
1N614	BYD13J	1N704A	1N5229B	1N773	1N4448
1N614A	BYD13J	1N705	1N5230B	1N774	1N4448
1N616	1N4148	1N705A	1N5230B	1N775	1N4448
1N617	1N4148	1N706	1N5232B	1N776	1N4448
1N618	1N4148	1N706A	1N5232B	1N777	1N4448
1N619	1N4148	1N707	1N5236B	1N778	1N4148
1N625	1N914	1N707A	1N5236B	1N778	1N4448
1N625A	1N4148	1N708	1N5232B	1N789	1N4148
1N625M	1N914	1N708A	1N5232B	1N789M	1N4148
1N626	1N914	1N709	1N5234B	1N790	1N4148
1N6263	BAT86	1N709A	1N5234B	1N790M	1N4148
1N626A	1N4148	1N710	1N5235B	1N791	1N4448
1N626M	1N914	1N710A	1N5235B	1N791M	1N4448
1N627	1N914	1N711	1N5236B	1N792	1N4448
1N631	1N4148	1N711A	1N5236B	1N792M	1N4448
1N632	1N4148	1N712	1N5237B	1N793	1N4148
1N636	1N4448	1N712A	1N5237B	1N793M	1N4148
1N645	BYD11G	1N713	1N5239B	1N794	1N4148
1N646	BYD11G	1N713A	1N5239B	1N795	1N4448
1N647	BYD11G	1N714	1N5240B	1N796	1N4448
1N6478	PRLL4001	1N714A	1N5240B	1N805	1N4148
1N6479	PRLL4002	1N715	1N5241B	1N806	1N4148
1N648	BYD11J	1N715A	1N5241B	1N808	1N4448
1N6480	BYD17D	1N716	1N5242B	1N810	1N4148
1N6481	BYD17G	1N716A	1N5242B	1N811	1N4148
1N6482	BYD17J	1N717	1N5243B	1N811M	1N4148
1N6483	BYD17K	1N717A	1N5243B	1N813	1N4148
1N6484	BYD17M	1N718	1N5245B	1N813M	1N4148
1N649	BYD11J	1N718A	1N5245B	1N814	1N4148
1N659	1N914	1N719	1N5246B	1N814M	1N4148
1N659A	1N914	1N719A	1N5246B	1N815	1N4448
1N664	1N5237B	1N720	1N5248B	1N815M	1N4448
1N665	1N5242B	1N720A	1N5248B	1N818	1N4148
1N666	1N5245B	1N721	1N5250B	1N818A	1N4148
1N667	1N5248B	1N721A	1N5250B	1N821	1N821
1N668	1N5251B	1N722	1N5251B	1N821A	1N821A
1N669	1N5245B	1N722A	1N5251B	1N823	1N823
1N673	BYD11G	1N723	1N5252B	1N823A	1N823A
1N677	BYD11D	1N723A	1N5252B	1N825	1N825
1N678	BYD11D	1N724	1N5254B	1N825A	1N825A
1N679	BYD11D	1N724A	1N5254B	1N827	1N827
1N681	BYD11G	1N725	1N5256B	1N827A	1N827A
1N682	BYD11G	1N725A	1N5256B	1N829	1N829
1N683	BYD11G	1N726	1N5257B	1N829A	1N829A
1N684	BYD11G	1N726A	1N5257B	1N848	BYD11D
1N685	BYD11J	1N761	1N5230B	1N849	BYD11G
1N686	BYD11J	1N762	1N5232	1N850	BYD11G

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
1N851	BYD11J	1N916B	1N916B	1SMB5938A	BZD27-C36
1N852	BYD11J	1N918	1N914	1SMB5938A	BZG03-C36
1N853	BYD11K	1N920	BAS11	1SMB5939A	BZD27-C39
1N854	BYD11K	1N921	BAS11	1SMB5939A	BZG03-C39
1N855	BYD11M	1N922	BAS11	1SMB5940A	BZD27-C43
1N856	BYD11M	1N923	BAS11	1SMB5940A	BZG03-C43
1N859	BYD11D	1N924	1N914	1SMB5941A	BZD27-C47
1N860	BYD11G	1N925	1N4148	1SMB5941A	BZG03-C47
1N865	BYD11K	1N926	1N4148	1SMB5942A	BZD27-C51
1N866	BYD11M	1N927	1N4148	1SMB5942A	BZG03-C51
1N867	BYD11M	1N930	1N4446	1SMB5943A	BZD27-C56
1N870	BYD11D	1N947	BYD11J	1SMB5943A	BZG03-C56
1N871	BYD11G	1N948	1N4448	1SMB5944A	BZD27-C62
1N872	BYD11G	1N974A	1N5258B	1SMB5944A	BZG03-C62
1N873	BYD11J	1N974B	1N5258B	1SMB5945A	BZD27-C68
1N874	BYD11J	1N993	1N4446	1SMB5945A	BZG03-C68
1N875	BYD11K	1N994	1N4151	1SMB5946A	BZD27-C75
1N876	BYD11K	1N997	1N4148	1SMB5946A	BZG03-C75
1N877	BYD11M	1N999	1N914	1SMB5947A	BZD27-C82
1N878	BYD11M	1P643	BYD33D	1SMB5947A	BZG03-C82
1N881	BYD11D	1P644	BYD33D	1SMB5948A	BZD27-C91
1N882	BYD11G	1P645	BYD33G	1SMB5948A	BZG03-C91
1N883	BYD11G	1P646	BYD33G	1SMB5949A	BZD27-C100
1N884	BYD11J	1P647	BYD33G	1SMB5949A	BZG03-C100
1N885	BYD11J	1P649	BYD33J	1SMB5950A	BZD27-C110
1N886	BYD11K	1S44	BAV10	1SMB5950A	BZG03-C110
1N887	BYD11K	1S920	BAV18	1SMB5951A	BZD27-C120
1N888	BYD11M	1S921	BAV19	1SMB5951A	BZG03-C120
1N889	BYD11M	1S922	BAV20	1SMB5952A	BZD27-C130
1N890	1N4446	1S923	BAV21	1SMB5952A	BZG03-C130
1N891	1N4448	1SMB5925A	BZD27-C10	1SMB5953A	BZD27-C150
1N892	1N4448	1SMB5925A	BZG03-C10	1SMB5953A	BZG03-C150
1N897	1N4148	1SMB5926A	BZD27-C11	1SMB5954A	BZD27-C160
1N898	1N4448	1SMB5926A	BZG03-C11	1SMB5954A	BZG03-C160
1N903	1N4148	1SMB5927A	BZD27-C12	1SMB5955A	BZD27-C180
1N903A	1N914	1SMB5927A	BZG03-C12	1SMB5955A	BZG03-C180
1N903AM	1N914	1SMB5928A	BZD27-C13	1SMB5956A	BZD27-C200
1N903M	1N914	1SMB5928A	BZG03-C13	1SMB5956A	BZG03-C200
1N904	1N914	1SMB5929A	BZD27-C15	1SR124-100A	BYD33D
1N904A	1N914	1SMB5929A	BZG03-C15	1SR124-200A	BYD33D
1N904AM	1N914	1SMB5930A	BZD27-C16	1SR124-400A	BYD33G
1N904M	1N914	1SMB5930A	BZG03-C16	1SR139-100	1N4002ID
1N905	1N4151	1SMB5931A	BZD27-C18	1SR139-200	1N4003ID
1N905A	1N914	1SMB5931A	BZG03-C18	1SR139-400	1N4004ID
1N905AM	1N914	1SMB5932A	BZD27-C20	1SR154-100	BYG50D
1N905M	1N914	1SMB5932A	BZG03-C20	1SR154-200	BYG50G
1N906A	1N4446	1SMB5933A	BZD27-C22	1SR154-400	BYG50J
1N906AM	1N4446	1SMB5933A	BZG03-C22	1SR159-200	BYG80E
1N906M	1N4446	1SMB5934A	BZD27-C24	1SR35-100A	1N4002ID
1N907A	1N4448	1SMB5934A	BZG03-C24	1SR35-200A	1N4003ID
1N907AM	1N4446	1SMB5935A	BZD27-C27	1SR35-400A	1N4004ID
1N907M	1N4446	1SMB5935A	BZG03-C27	1SS193	BAS16
1N908A	1N4446	1SMB5936A	BZD27-C30	1SS226	BAV99
1N908AM	1N4446	1SMB5936A	BZG03-C30	2001	PTB23001X
1N914	1N914	1SMB5937A	BZD27-C33	2003	PTB23003X
1N916	1N916	1SMB5937A	BZG03-C33	2005	PTB23005X

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2010	PVB42004X	2N1335	2N1613	2N1943	2N3020
2023-12	PZ2024B10U	2N1336	2N1613	2N1944	2N2219
2023-16	PZ2024B20U	2N1337	2N1613	2N1945	2N2219
2023-6T	PZ2024B10U	2N1338	2N1613	2N1946	2N2219A
20CTQ030	PBYR2035CT	2N1339	2N1893	2N1953	2N1613
20CTQ035	PBYR2035CT	2N1340	2N1893	2N1990	2N3019
20CTQ040	PBYR2040CT	2N1341	2N1893	2N2017	2N1893
20CTQ045	PBYR2045CT	2N1342	2N1893	2N2033	2N3020
20D05	1N5059	2N1369	2N2907	2N2038	2N3053
20D1	1N5059	2N1386	2N2222	2N2039	2N1893
20D10	BYW56	2N1387	2N2222	2N2040	2N3053
20D2	1N5059	2N1388	2N2222	2N2041	2N1893
20D4	1N5060	2N1389	2N2222	2N2049	2N2219A
20D6	1N5061	2N1390	2N2222	2N2086	2N3020
20D8	1N5062	2N1439	2N2907A	2N2087	2N3020
21DQ03	1N5821ID	2N1440	2N2907A	2N2102	2N1893
21DQ04	1N5822ID	2N1441	2N2907A	2N2106	2N1893
2301	PTB23001X	2N1442	2N2907A	2N2107	2N1893
2304	PTB23003X	2N1443	2N2907A	2N2108	2N1893
2307	PTB23005X	2N1474	2N2907A	2N2193	2N3019
2324-16	PZ2024B20U	2N1474A	2N2907A	2N2193A	2N3019
23A005	LTE21009R	2N1475	2N2907A	2N2194	2N1613
23A008	LTE21009R	2N1491	2N1613	2N2194A	2N1613
23A016	LTE21015R	2N1491	BFR95	2N2194B	2N1613
23A024	LTE21025R	2N1492	2N1613	2N2195	2N1613
25CTQ030	PBYR2535CT	2N1505	2N1613	2N2195B	2N1613
25CTQ035	PBYR2535CT	2N1506	2N1613	2N2198	2N1893
25CTQ040	PBYR2540CT	2N1506A	2N1613	2N2206	2N2369A
25CTQ045	PBYR2545CT	2N1507	2N2219	2N2217	2N1613
2731-20	RZ2731B32W	2N1508	2N3020	2N2218	2N1613
2731-35	RZ2731B48W	2N1509	2N3020	2N2218A	2N1613
2731-50	RZ2731B60W	2N1528	2N1613	2N2219	2N2219
2931-20	RZ2731B32W	2N1564	2N1893	2N2219A	2N2219A
2931-40	RZ2731B48W	2N1565	2N1893	2N2222	2N2222
2931-55	RZ2731B60W	2N1566	2N1893	2N2222A	2N2222A
2A5	LCE2009S	2N1566A	2N1893	2N2222B	2N2222A
2A5A	LBE2009S	2N1572	2N1893	2N2236	2N1613
2DF12	BYV26F	2N1573	2N1893	2N2237	2N1613
2IPFF4	BYV27-400	2N1574	2N1893	2N2240	2N1613
2N1051	2N1613	2N1613	2N1613	2N2241	2N2219
2N1074	2N1613	2N1613B	2N3020	2N2243	2N3020
2N1075	2N1613	2N1623	2N2907	2N2243A	2N3020
2N1076	2N1613	2N1704	2N1613	2N2270	2N3019
2N1077	2N1613	2N1711	2N1711	2N2272	2N2222
2N1105	2N1893	2N1711A	2N2219A	2N2297	2N2297
2N1116	2N3020	2N1711B	2N2219A	2N2309	2N1613
2N1117	2N1893	2N1764	2N2369A	2N2310	2N1893
2N1135	2N2369A	2N1837	2N1613	2N2312	2N1893
2N1135A	2N2369A	2N1837A	2N1613	2N2316	2N1893
2N1206	2N3020	2N1837B	2N1613	2N2317	2N1613
2N1267	2N2369A	2N1838	2N1613	2N2350	2N2222A
2N1268	2N2369A	2N1840	2N1613	2N2350A	2N2222A
2N1269	2N2369A	2N1890	2N3019	2N2364	2N3020
2N1270	2N2369A	2N1893	2N1893	2N2364A	2N3020
2N1271	2N2369A	2N1923	2N1893	2N2368	2N2368
2N1272	2N2369A	2N1941	2N1613	2N2369	2N2369

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2N2369A	2N2369A	2N3019	2N3019	2N3485A	2N2907A
2N2380	2N1613	2N3020	2N3020	2N3486	2N2907
2N2380A	2N1613	2N3039	PN2907A	2N3486A	2N2907A
2N2389	2N1613	2N3040	PN2907A	2N3503	2N2905A
2N2395	2N1613	2N3053	2N3053	2N3505	2N2907A
2N2396	2N1613	2N3053A	2N3020	2N3508	2N2369A
2N2397	2N2369	2N3056	2N3020	2N3509	2N2369A
2N2433	2N1613	2N3057	2N3019	2N3545	2N2907A
2N2435	2N3020	2N3057A	2N3019	2N3546	2N2369A
2N2436	2N3019	2N3073	2N2907A	2N3553	2N3553
2N2437	2N3020	2N3081	2N3020	2N3563	2N5088
2N2438	2N3020	2N3095	2N2907A	2N3566	2N5086
2N2439	2N3019	2N3107	2N2219A	2N3567	MPSA06
2N2440	2N3019	2N3108	2N2219A	2N3569	PN2222A
2N2475	2N2369A	2N3109	2N2219A	2N3576	PN2369A
2N2478	2N1613	2N3115	2N2222A	2N3600	BFY90
2N2479	2N1613	2N3116	2N2222A	2N3605	PN2369A
2N2495	2N2907A	2N3119	2N3020	2N3605A	PN2369A
2N2496	2N2907A	2N3122	2N2219	2N3606	PN2369A
2N2497	2N2907A	2N3123	2N2219	2N3606A	PN2369A
2N2601	2N2907A	2N3133	2N2907	2N3607	PN2369A
2N2602	2N2907A	2N3134	2N2907	2N3633	2N3904
2N2603	2N2907A	2N3135	2N2907	2N3638	PN2907
2N2695	2N2907	2N3136	2N2907	2N3638A	PN2907A
2N2709	2N2907	2N3227	2N2369	2N3639	MPS3640
2N2711	2N4123	2N3241	2N2222	2N3640	MPS3640
2N2712	2N4124	2N3241A	2N2222	2N3644	PN2907
2N2713	2N4123	2N3242	2N2222	2N3645	PN2907
2N2714	2N4124	2N3242A	2N2222	2N3647	2N2369
2N2787	2N1613	2N3250	2N2907	2N3671	2N2907A
2N2788	2N1613	2N3250A	2N2907A	2N3672	2N2907A
2N2789	2N2219A	2N3296	BLV20	2N3673	2N2907A
2N2792	2N2222A	2N3299	2N1613	2N3678	2N2907A
2N2837	2N2907A	2N3301	2N2222A	2N3735	2N3019
2N2863	2N1613	2N3302	2N2222A	2N3822	2N3822
2N2864	2N1613	2N3330	J176	2N3823	2N3823
2N2886	2N1613	2N3331	J176	2N3825	2N4400
2N2904	2N2904A	2N3374	2N3020	2N3830	2N1613
2N2904A	2N2904A	2N3393	2N4124	2N3831	2N1613
2N2905	2N2905	2N3395	2N4124	2N3843	2N4123
2N2905A	2N2905A	2N3396	2N4124	2N3843A	2N4123
2N2906	2N2906	2N3397	2N4123	2N3844	2N4123
2N2906A	2N2906A	2N3398	2N4123	2N3844A	2N4123
2N2907	2N2907	2N3402	2N4124	2N3845	2N4123
2N2907A	2N2907A	2N3436	2N3823	2N3845A	2N4123
2N2926	2N4124	2N3437	BFW12	2N3854	2N4123
2N2938	2N2369A	2N3438	BFW13	2N3854A	2N4123
2N2939	2N3020	2N3439	2N3439	2N3855	2N4123
2N2940	2N3019	2N3440	2N3440	2N3855A	2N4123
2N2951	2N2219A	2N3451	2N2369A	2N3856	2N4124
2N2959	2N2219	2N3458	2N3823	2N3856A	2N4124
2N2960	2N2219	2N3459	BFW12	2N3858A	2N5550
2N2961	2N2219	2N3460	BFW13	2N3859A	2N5550
2N3011	2N2369	2N3464	2N2219A	2N3866	2N3866
2N3012	2N2369	2N3478	BFY90	2N3877	2N5550
2N3014	2N2369	2N3485	2N2907	2N3877A	2N5550

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2N3901	2N5088	2N4392	2N4392	2N5087	2N5087
2N3904	2N3904	2N4393	2N4393	2N5088	2N5088
2N3906	2N3906	2N4400	2N4400	2N5106	2N2219
2N3924	BFS22A	2N4401	2N4401	2N5107	2N2222
2N3959	BFY90	2N4402	2N4402	2N5109	BFR95
2N3960	BFY90	2N4403	2N4403	2N5114	J174
2N3961	BLV20	2N4404	2N4031	2N5115	J175
2N3966	2N3966	2N4405	2N4031	2N5116	J175
2N3970	2N4391	2N4406	2N4031	2N5134	2N2369
2N3971	2N4392	2N4407	2N4033	2N5135	MPS6514
2N3972	2N4393	2N4416	2N4416	2N5136	2N4400
2N3973	2N4400	2N4418	PN2369A	2N5137	2N4400
2N3974	2N4400	2N4419	PN2369A	2N5138	2N5086
2N3975	2N4401	2N4420	PN2369A	2N5140	MPS3640
2N3976	2N4401	2N4421	PN2369A	2N5141	MPS3640
2N3981	2N1613	2N4422	PN2369A	2N5142	2N4402
2N3982	2N1613	2N4423	PN2369	2N5143	2N4402
2N4008	2N4032	2N4427	2N4427	2N5175	2N5550
2N4030	2N4030	2N4427(M)	2N4427	2N5179	BFY90
2N4031	2N4031	2N4441	BT151-650R	2N5180	BFY90
2N4032	2N4032	2N4442	BT151-650R	2N5186	2N2369
2N4033	2N4033	2N4443	BT151-650R	2N5219	2N3904
2N4036	2N3053	2N4444	BT151-650R	2N5220	PN2369
2N4036	2N4036	2N4449	2N2369A	2N5223	2N4124
2N4037	2N3053	2N4450	2N2222	2N5224	PN2369
2N4062	MPS6518	2N4452	2N2907	2N5225	2N3904
2N4086	MPS6514	2N4856	2N4856	2N5226	2N3906
2N4087	MPS6514	2N4857	2N4857	2N5227	2N4125
2N4087A	MPS6515	2N4858	2N4858	2N5228	MPS3640
2N4091	2N4091	2N4859	2N4859	2N5242	2N2907
2N4092	2N4092	2N4860	2N4860	2N5243	2N2907
2N4093	2N4093	2N4861	2N4861	2N5246	BF256A
2N4102	BT151-650R	2N4867	BFW13	2N5247	BF256C
2N4123	2N4123	2N4867A	BFW13	2N5308A	MPSA14
2N4124	2N4124	2N4872	PN2369A	2N5309	2N5086
2N4125	2N4125	2N4873	2N2369A	2N5310	2N5086
2N4126	2N4126	2N4888	2N5401	2N5311	2N5086
2N4127	BLY92A	2N4943	2N3019	2N5355	MPS6534
2N4128	BLY92A	2N4944	MPSA06	2N5368	2N4400
2N4130	BLW50F	2N4951	2N2222	2N5369	2N4401
2N4140	2N4400	2N4952	2N2222	2N5371	2N4400
2N4141	2N4401	2N4953	2N2222	2N5372	2N4402
2N4142	2N4402	2N4954	2N2222	2N5373	2N4403
2N4143	2N4403	2N4964	2N5086	2N5375	2N4402
2N4191	BFR95	2N4969	2N4400	2N5381	2N3904
2N4227	2N4400	2N4970	2N4401	2N5383	2N3906
2N4228	2N4402	2N4971	2N4402	2N5400	2N5400
2N4256	2N3904	2N4972	2N4403	2N5401	2N5401
2N4274	2N4125	2N5026A	MPSA14	2N5415	2N5415
2N4284	2N5086	2N5053	BFY90	2N5416	2N5416
2N4285	2N5086	2N5054	2N5054	2N5418	2N4400
2N4286	MPS6515	2N5054	BFY90	2N5419	2N4401
2N4288	MPS6518	2N5056	2N2369A	2N5420	2N5086
2N4294	PN2369A	2N5057	2N2369A	2N5421	2N4427
2N4295	PN2369A	2N5064	2N5064	2N5422	BFQ42
2N4391	2N4391	2N5086	2N5086	2N5432	J108

4

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2N5433	J108	2N5919A	BLV31	2N6347A	BT138-500G
2N5434	J109	2N5942	BLW50F	2N6348	BT137-600
2N5447	MPS3702	2N5943	BFR95	2N6348	BT138-600G
2N5448	MPS3703	2N5944	BLW79	2N6348A	BT138-600
2N5449	MPS3704	2N5945	BLW80	2N6348A	BT138-600G
2N5457	BF245A	2N5946	BLW81	2N6349	BT137-800
2N5458	BF245A	2N5965	2N5551	2N6349	BT138-800G
2N5459	BF245B	2N5994	BLW86	2N6349A	BT138-800
2N5525	MPSA13	2N5995	BLV10	2N6349A	BT138-800G
2N5550	2N5550	2N5999	2N5087	2N6394	BT151-500R
2N5551	2N5551	2N6000	2N4401	2N6395	BT151-500R
2N5591	BLY89C	2N6001	2N4401	2N6396	BT151-500R
2N5592	2N3822	2N6004	2N4402	2N6397	BT151-500R
2N5593	2N3822	2N6009	2N5087	2N6398	BT151-650R
2N5594	2N3822	2N6010	2N4401	2N6399	BT151-800R
2N5638	PN4391	2N6011	2N4402	2N6400	BT152-400R
2N5639	PN4392	2N6014	2N4401	2N6401	BT152-400R
2N5640	PN4393	2N6015	2N4403	2N6402	BT152-400R
2N5641	BLV20	2N6021	2N5551	2N6403	BT152-400R
2N5642	BLY92A	2N6023	PN2907	2N6404	BT152-600R
2N5653	J112	2N6081	BLY88C	2N6405	BT152-800R
2N5654	J111	2N6081	BLY88C/01	2N6428	2N6428
2N5655	BUX99	2N6082	BLY89C	2N6428A	2N6428A
2N5656	BUX99	2N6083	BLW31	2N6439	BLU60/28
2N5657	BUX86	2N6084	BLW60C	2N6504	BT145-500R
2N5711	BLV20	2N6093	BLW50F	2N6505	BT145-500R
2N5712	BLY92A	2N6105	BLX94A	2N6506	BT145-500R
2N5763	2N2907A	2N6197	BLV20	2N6507	BT145-500R
2N5769	PN2369A	2N6198	BLY92A	2N6508	BT145-600R
2N5773	BLW89	2N6203	BLX93A	2N6509	BT145-800R
2N5774	BLX93A	2N6204	BLV31	2N6515	MPS6515
2N5794	2N2222A	2N6205	BLX94A	2N6518	MPS6518
2N5796	2N2907A	2N6304	BFY90	2N6603	BFP91A
2N5810	2N5087	2N6305	BFY90	2N669B	2N1893
2N5815	2N3904	2N6342	BT137-500G	2N696	2N1613
2N5816	2N3904	2N6342	BT138-500	2N697	2N1613
2N5818	2N3906	2N6342A	BT138-500	2N699	2N1893
2N5819	2N3906	2N6342A	BT138-500G	2N699A	2N1893
2N5821	MPSA55	2N6343	BT137-500G	2N7000	2N7000
2N5826	MPS6514	2N6343	BT138-500	2N7002	2N7002
2N5827	MPS6515	2N6343A	BT138-500	2N7008	2N7000
2N5830	2N5551	2N6343A	BT138-500G	2N7025	BST100
2N5831	2N5551	2N6344	BT137-600G	2N706	2N2369
2N5835	BFR95	2N6344A	BT138-600	2N706C	2N2369
2N5855	MPSA55	2N6344A	BT138-600G	2N709	2N2369A
2N5857	MPSA56	2N6345	BT137-800G	2N744	2N2369A
2N5861	2N3019	2N6345	BT138-800	2N744A	2N2369A
2N5864	2N4031	2N6345A	BT138-800	2N834A	2N2369A
2N5865	2N4030	2N6345A	BT138-800G	2N847	2N2369A
2N5913	BFQ42	2N6346	BT137-500	2N850	2N2369A
2N5914	BLW79	2N6346	BT138-500	2N852	2N2369A
2N5915	BLW81	2N6346A	BT138-500	2N858	2N2907
2N5916	BLW89	2N6346A	BT138-500G	2N859	2N2907
2N5917	BLW89	2N6347	BT137-500	2N860	2N2907
2N5918	BLW33	2N6347	BT138-500G	2N861	2N2907
2N5919	BLV31	2N6347A	BT138-500	2N862	2N2907

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2N863	2N2907	2PFF2	BYM26A	2SA1619	JC328
2N864	2N2907	2PFF4	BYM26B	2SA1619A	JC327
2N864A	2N2907	2PFF6	BYM26C	2SA1753	2PB710A
2N865	2N2907	2PFF8	BYM26D	2SA1781	2PB709A
2N865A	2N2907	2PFT05	BYV27-50	2SA562TM	JC327
2N867	2N2369A	2PFT1	BYV27-100	2SA564	JA100
2N914A	2N2369A	2PFT15	BYV27-150	2SA564A	JA101
2N923	2N2907	2PFT2	BYV27-200	2SA608	JC557
2N924	2N2907	2SA1013	2N5415	2SA608K	JC556
2N925	2N2907	2SA1015	2PA1015	2SA673	JC328
2N926	2N2907	2SA1036	2PB710A	2SA675	2N5400
2N927	2N2907	2SA1037K	2PB709A	2SA719	JC328
2N928	2N2907	2SA1090	2N2907A	2SA720	JC327
2N935	2N2907	2SA1121	2PB710A	2SA733	2PA733
2N936	2N2907	2SA1145	2N5401	2SA741	2N2906
2N937	2N2907	2SA1152	MPSA56	2SA742	2N2907A
2N938	2N2907	2SA1153	PN2907	2SA778	2N5401
2N939	2N2907	2SA1154	PN2907A	2SA781	2N3906
2N940	2N2907	2SA1158	JC556	2SA800	BFQ52
2N942	2N2907	2SA1162	2PB709A	2SA812	2PB709A
2N943	2N2907	2SA1175	JC556	2SA844	JC556
2N944	2N2907	2SA1199	PN2907A	2SA854	JC327
2N945	2N2907	2SA1206	2N3904	2SA876	2N2907A
2N946	2N2907	2SA1221	2N5401	2SA915	2N5401
2N958	2N2369	2SA1222	2N5401	2SA916	2N5401
2N959	2N2369	2SA1223	BFQ23	2SA933	JC557
2PA1015	2PA1015	2SA1228	BFQ24	2SA949	2N5401
2PA1015BL	2PA1015BL	2SA1230	BFQ23	2SA952	JC328
2PA1015GR	2PA1015GR	2SA1313	2PB710A	2SA973	JC556
2PA1015L	2PA1015L	2SA1319	JA100	2SA987	JC557
2PA1015Y	2PA1015Y	2SA1319A	JA101	2SA990	JC556
2PA1576	2PA1576	2SA1352	BF472	2SA991	JC556
2PA733	2PA733	2SA1353	BF470	2SB1030	JC328
2PA733K	2PA733K	2SA1374	JC556	2SB1030A	JC327
2PA733P	2PA733P	2SA1376	2N5401	2SB1116	PN2907
2PA733Q	2PA733Q	2SA1376A	2N5401	2SB1116A	PN2907
2PA733R	2PA733R	2SA1390	JC327	2SB1207	PN2907A
2PB709	2PB709	2SA1404	BFQ162	2SB1218	2PA1576
2PB709A	2PB709A	2SA1405	BFQ232	2SB1219	2PB1219
2PB710	2PB710	2SA1424	BFT934	2SB1320	JA100
2PB710A	2PB710A	2SA1474	BFQ255	2SB1320A	JA101
2PC1815	2PC1815	2SA1475	BFQ252	2SB1321	JC328
2PC1815BL	2PC1815BL	2SA1475	BFQ255A	2SB1321A	JC327
2PC1815GR	2PC1815GR	2SA1476	BFQ252	2SB1376	JA101
2PC1815L	2PC1815L	2SA1536	BFQ252	2SB1377	JC327
2PC1815Y	2PC1815Y	2SA1537	BFQ252	2SB637	JC556
2PC4081	2PC4081	2SA1538	BFQ252A	2SB641	JA100
2PC945	2PC945	2SA1539	BFQ252	2SB642	JA101
2PC945K	2PC945K	2SA1540	BFQ252A	2SB643	JC328
2PC945P	2PC945P	2SA1541	BFQ252A	2SB644	JC327
2PC945Q	2PC945Q	2SA1570	JC556	2SB698	JC328
2PC945R	2PC945R	2SA1571	JC557	2SB709	2PB709
2PD601	2PD601	2SA1576	2PA1576	2SB709A	2PB709A
2PD601A	2PD601A	2SA1577	2PB1219	2SB710	2PB710
2PD602	2PD602	2SA1586	2PA1576	2SB710A	2PB710A
2PFF0	BYM26E	2SA1588	2PB1219	2SB725	JC556

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2SB736	BC856A	2SC1804	BLW33	2SC2329	BFQ42
2SB737	2PA1015	2SC1805	BLV31	2SC2350	BFG91A
2SB737	JC327	2SC1807	BFY90	2SC2351	BFR93A
2SB759	JC558	2SC1808	BLW80	2SC2353	BFG90A
2SB759A	JC557	2SC1815	2PC1815	2SC2367	BFQ66
2SB774	JC558	2SC1840	JC547	2SC2368	BFR91A
2SB804	BCX53	2SC1843	JC546	2SC2369	BFG195
2SC1043	BFQ34	2SC1940	2N5550	2SC2383	2N3440
2SC1044	BFY90	2SC1941	2N5551	2SC2408	BF751
2SC1119	BFG90A	2SC1946	BLW87	2SC2411K	2PD602
2SC1213A	JC337	2SC1946A	BLW31	2SC2412K	2PD601A
2SC1214	JC337	2SC1947	BFQ43	2SC2458	JC547
2SC1223	BFQ23C	2SC1949	BFP91A	2SC2462	2PD601
2SC1251	BFQ34	2SC1955	BFQ43	2SC2470	BF748
2SC1252	BFR95	2SC1959	JC337	2SC2480	BF747
2SC1253	BFR95	2SC1967	BLW81	2SC2496A	BLU30/12
2SC1254	BFY90	2SC1988	BFQ22S	2SC2498	ON4185
2SC1257	BLY88C/01	2SC1988	BFQ63	2SC2499	ON4184
2SC1258	BLY88C/01	2SC2000	JC337	2SC2540	BLV45/12
2SC1260	2N2857	2SC2002	MPSA05	2SC2550	2N2222A
2SC1268	BFQ66	2SC2003	MPSA06	2SC2570A	BF751
2SC1275	2N2857	2SC2025	BFQ63	2SC2585	BFP520
2SC1278	2N5550	2SC2026	BF748	2SC2585	BFQ66
2SC1279	2N5551	2SC2026	ON4185	2SC2586	BLX65
2SC1298	BLX39	2SC2037	ON4183	2SC2618	2PD602
2SC1318	JC337	2SC2040	BFQ34	2SC2619	BCW71
2SC1336	BFQ66	2SC2056	BFQ43	2SC2620	BFS17
2SC1365	BFR95	2SC2058	JC548	2SC2627	BLY87C
2SC1366	BFR95	2SC2065	BFQ34	2SC2628	BLW29
2SC1374	2N2369	2SC2081	BLU11	2SC2628	BLY87C
2SC1375	2N2369	2SC2081	BLU11/SL	2SC2629	BLW30
2SC1385	2N2219	2SC2082	BLW81	2SC2630	BLV45/12
2SC1424	BFQ22S	2SC2082	BLX68	2SC2643	BLU20/12
2SC1424	BFQ63	2SC2101	BLY88C/01	2SC2652	BLW96
2SC1560	BFQ66	2SC2102	BLY87C	2SC2694	BLV75/12
2SC1570	JC546	2SC2103A	BLW31	2SC2712	2PD601A
2SC1571	JC547	2SC2104	BLW80	2SC2720	PN2222
2SC1592	BFQ34	2SC2131	BLX65	2SC2721	PN2222A
2SC1593	BFQ34	2SC2131	BLX65E	2SC2735	BFS17A
2SC1594	BFQ34	2SC2132	BLU45/12	2SC2756	BF747
2SC1600	BFR95	2SC2148	BFP91A	2SC2757	BF747
2SC1605A	BLY87C	2SC2149	BFP91A	2SC2758	BF747
2SC1623	2PD601A	2SC2149	BFQ66	2SC2759	BFR93A
2SC1656	BFP90A	2SC2150	BFP91A	2SC2782	BLV75/12
2SC1684	JC500	2SC2174	BFQ66	2SC2783	BLU45/12
2SC1685	JC501	2SC2178	BLV11	2SC2785	JC546
2SC1689	BLX39	2SC2181	BLW85	2SC2812	2PD601
2SC1707	2N2222	2SC2217	BFQ66	2SC2833	BUW11
2SC1707A	2N2222A	2SC2218	BFQ66	2SC2868	JC546
2SC1729	BLY87C	2SC2222	BLW81	2SC2876	BFR91A
2SC1730	BF748	2SC2229	2N5551	2SC2879	BLW99
2SC1740	JC547	2SC2263	JC546	2SC2886	BLX93A
2SC1741	JC337	2SC2281	BLW87	2SC2887	BLX93A
2SC1763	BLW50F	2SC2282	BLY87C	2SC2888	BLY93A
2SC1764	BLW50F	2SC2282	BLY88C	2SC2889	BLX39
2SC1781	2N2222A	2SC2309	JC547	2SC2890	BLV80/28

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2SC2892	BLW89	2SC3358	BFR521	2SC3950	BFQ162
2SC2893	BLW33	2SC3393	PN2222A	2SC3951	BFQ232
2SC2894	BLV31	2SC3429	BFQ67	2SC3952	BFQ262
2SC2905	BLU45/12	2SC3445	BFQ67	2SC3953	BFQ232A
2SC2915	BLU45/12	2SC3484	BFG195	2SC3953	BFQ255
2SC2917	BLV75/12	2SC3511	BFG90A	2SC3954	BFQ232A
2SC2932	BLV93	2SC3513	BFR92A	2SC3954	BFQ255
2SC2946A	BLU45/12	2SC3544	ON4185	2SC3955	BFQ232A
2SC2952	BFR95	2SC3545	BFR93A	2SC3956	BFQ232A
2SC2953	BFQ34	2SC3545	BFS17	2SC4081	2PC4081
2SC2958	2N5551	2SC3582	BF751	2SC4086	BFG93A
2SC2959	2N5551	2SC3583	BFQ67	2SC4087	BFG93A
2SC2960	2N3904	2SC3583	BFR520	2SC4089	BFG93A
2SC2998	2N3904	2SC3584	BFG65	2SC4090	BFG92A/XR
2SC3011	BFR92A	2SC3584	BFR521	2SC4090	BFG93A
2SC3019	BLU98	2SC3584	BFR91A	2SC4092	BFG93A/XR
2SC3020	BLW80	2SC3585	BFR505	2SC4093	BFG520/XR
2SC3022	BLU20/12	2SC3587	BFP505	2SC4093	BFG67
2SC3099	BFR92A	2SC3587	BFQ33C	2SC4093	BFG67/XR
2SC3102	BLU60/12	2SC3595	BFQ235	2SC4094	BFG520/XR
2SC3105	BLV95	2SC3598	BFQ232	2SC4094	BFG67
2SC3119	BFS17	2SC3599	BFQ252	2SC4094	BFG67/XR
2SC3120	BFR93A	2SC3603	BFQ66	2SC4095	BFG33
2SC3123	BFS17	2SC3604	BFP520	2SC4095	BFG33/XR
2SC3124	BFS17	2SC3604	BFP91A	2SC4095	BFG505/XR
2SC3126	BFG90A	2SC3604	BFQ66	2SC4116	2PC4081
2SC3126	BFR91A	2SC3605	BF751	2SC4127	BFG67/XR
2SC3127	BFR92A	2SC3606	BFQ67	2SC4185	BFS17W
2SC3127	BFR93A	2SC3606	BFR93A	2SC4208A	JC337
2SC3139	BLW32	2SC3607	BFQ19	2SC4225	BFR93AW
2SC3169	BUX84	2SC3608	BFG65	2SC4226	BFQ67W
2SC3169PH	BUX84F	2SC3608	BFG90A	2SC4226	BFS520
2SC3169PP	BUX84F	2SC3609	BFG67/XR	2SC4227	BFQ67W
2SC3173	BU407	2SC3609	BFG93A/XR	2SC4227	BFS520
2SC3175	BU406	2SC3663	BFT25A	2SC4228	BFS505
2SC319	2N4427	2SC3705B	BUT11F	2SC4245	BFS17A
2SC320	BFQ42	2SC3718	BF747	2SC4246	BF747
2SC3240	BLW99	2SC3721	BFG65	2SC4247	BFR92A
2SC3241	BLW99	2SC3730	BFQ67	2SC4248	BFR92A
2SC3268	BFG197/X	2SC3731	2N3904	2SC4315	BFG67/XR
2SC3282	BLV94	2SC3732	2N2369	2SC4315	BFG93A/XR
2SC3283	BLV95	2SC3733	2N2222	2SC4317	BFR520
2SC3283A	BLV95	2SC3745	BFG93A/XR	2SC4319	BFR521
2SC3301	BFG197/X	2SC3745	BUT11F	2SC4320	BFG33/XR
2SC3302	BFG195	2SC3780	BFQ235	2SC4321	BFS520
2SC3302	BFR91A	2SC3781	BFQ232	2SC4322	BFR505
2SC3311A	JC501	2SC3781	BFQ235A	2SC4324	BFG505/XR
2SC3325	2PD602A	2SC3781	BFQ252	2SC4325	BFS505
2SC3332	2N5551	2SC3782	BFQ232	2SC4392	BFQ67
2SC3338	BFQ19	2SC3782	BFQ252	2SC4393	BFR92A
2SC3352PP	BUX84F	2SC3793	BFS17A	2SC4394	BFQ67W
2SC3355	BF751	2SC380	JC548	2SC4394	BFR93AW
2SC3356	BFQ67	2SC3811	2N3904	2SC4470	BFR93AR
2SC3356	BFR520	2SC3827	BFS17	2SC454	2N4124
2SC3358	BFG65	2SC3828	BFG17A/XR	2SC458	JC548
2SC3358	BFP91A	2SC3841	BFR93A	2SC4642K	2PD601

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
2SC536	JC547	2SDT237	BUV26	2SK435	J113
2SC536K	JC546	2SJ105GR	J177	2SK440	BUK455-200B
2SC567	BFY90	2SK108	PN4392	2SK507E	J308
2SC568	BFY90	2SK113-0	2N4393	2SK507F	J308
2SC571	BFS22A	2SK125	J310	2SK507H	J308
2SC689	2N2369	2SK147BL	PN4393	2SK508	PMBFJ308
2SC730	2N4427	2SK149	J309	2SK513	BUK454-800A
2SC732	JC546	2SK152	2N4093	2SK534	BUK456-800B
2SC767	JC546	2SK155	J309	2SK549	BUK455-100B
2SC821	2N4427	2SK162-K	PN4393	2SK551	BUK456-200B
2SC822	2N4427	2SK162-L	PN4393	2SK553	BUK455-500B
2SC823	BFR95	2SK162-M	PN4393	2SK554	BUK457-500B
2SC823	BFY90	2SK162-N	PN4393	2SK555	BUK457-500B
2SC824	BFR95	2SK163-K	J113	2SK556	BUK457-500A
2SC828	JC500	2SK163-L	J113	2SK557	BUK457-500A
2SC828A	JC501	2SK163-M	J113	2SK601	BST80
2SC852	BFR95	2SK163-N	J113	3001	PTB32001X
2SC908	BLX65	2SK165	J309	3003	PTB32003X
2SC923	JC547	2SK170BL	PN4393	3005	PTB32005X
2SC944	2N3904	2SK170GR	PN4393	30CPQ030	PBYR3035PT
2SC945	2PC945	2SK170V	PN4393	30CPQ040	PBYR3040PT
2SC979	2N2222A	2SK170Y	PN4393	30CTQ030	PBYR2535CT
2SC982	MPSA13	2SK190	J310	30CTQ035	PBYR2535CT
2SC988	BFQ22S	2SK197D	PMBF4416	30CTQ040	PBYR2540CT
2SC988A	BFQ22S	2SK197E	PMBF4416	30CTQ045	PBYR2545CT
2SC994	2N4427	2SK19BL	J309	30D1	BYM56A
2SC998	BFQ43	2SK19GR	J309	30D2	BYM56B
2SD1048	2PD602	2SK2090	PMBF4416	30D4	BYM56C
2SD1062	BUV26	2SK209BL	PMBF4416	30DF1	BYW95A
2SD1163	BU406	2SK209GR	PMBF4416	30DF2	BYW95A
2SD1163A	BU406	2SK209Y	PMBF4416	30DF4	BYW95B
2SD1350	MPSA42	2SK210BL	PMBFJ309	30DF6	BYW95C
2SD1350A	MPSA42	2SK210GR	PMBF4416	31DF1	BYV28-100
2SD1423A	JC337	2SK2110	PMBF4416	31DF2	BYV28-200
2SD1484K	2PD602A	2SK211GR	PMBF4416	31DF3	BYV28-300
2SD1616	PN2222	2SK211Y	PMBF4416	31DF4	BYV28-400
2SD1616A	PN2222	2SK212	PN4393	31DQ03	1N5821ID
2SD1819	2PC4081	2SK217D	PMBF4416	31DQ04	1N5822ID
2SD1991	JC500	2SK217E	PMBF4416	35824A	BFQ22S
2SD1991A	JC501	2SK218	J310	3N169	BSD215
2SD1992A	JC337	2SK223	PN4393	3PF0	BYW96E
2SD2070	JC501	2SK242E	PMBF4416	3PF8	BYW96D
2SD2071	JC337	2SK242F	PMBF4416	3PFR0	BYM36E
2SD596	2PD602	2SK319	BUK454-400B	3PFT05	BYV28-50
2SD601	2PD601	2SK320	BUK455-500B	3PFT1	BYV28-100
2SD601A	2PD601A	2SK349	BUK437-400B	3PFT15	BYV28-150
2SD602	2PD602	2SK350	BUK437-500B	3PFT2	BYV28-200
2SD602A	2PD602A	2SK357	BUK454-200B	3PM0	BYM56E
2SD636	JC548	2SK370BL	J109	3PM2	BYM56A
2SD637	JC547	2SK370GR	J109	3PM4	BYM56B
2SD639	JC337	2SK370V	J109	3PM6	BYM56C
2SD673A	JC327	2SK381	J113	3PM8	BYM56D
2SD7171	BUV26	2SK425	PMBF4416	3SF05	BYW95A
2SD786	JC337	2SK426	PMBF4416	3SF1	BYW95A
2SD884	BU407	2SK428	BUK455-100B	3SF2	BYW95A
2SD889	JC548	2SK43	J113	3SF4	BYW95B

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
3SF5	BYW95C	A114F	BYD13D	A5T3904	2N3904
3SF6	BYW95C	A114F	BYV95A	A5T3906	2N3906
3SFR0	BYM36E	A114M	BYD13J	A5T4058	2N5086
3SK126	BF997	A114M	BYV95C	A5T4061	2N3906
3SK126	BF998	A115A	BYM56A	A5T4123	2N4123
3SM0	BYM56E	A115A	BYW95A	A5T4124	2N4124
3SM2	BYM56A	A115B	BYM56A	A5T4125	2N4125
3SM4	BYM56B	A115B	BYW95A	A5T4126	2N4126
3SM6	BYM56C	A115C	BYM56B	A5T4248	2N5086
3SM8	BYM56D	A115C	BYW95B	A5T4249	2N5086
40006	BLW50F	A115D	BYM56B	A5T4402	2N4402
40240	BFY90	A115D	BYW95B	A5T4403	2N4403
40578	2N3866	A115E	BYM56C	A5T5058	MPSA42
40608	BFR95	A115E	BYW95C	A5T5059	MPSA42
40893	BLW81	A115F	BYM56A	A5T5086	2N5086
40894	BFR30	A115F	BYW95A	A5T5087	2N5087
40895	BFR30	A115M	BYM56C	A5T5172	2N4124
40896	BFR30	A115M	BYW95C	A5T5220	PN2369
40897	BFR30	A14A	1N5059	A5T5223	2N4124
40940	BLV30	A14A	BYM56A	A5T5225	2N3904
40954	BLV10	A14B	1N5059	A5T5226	2N3906
40967	BLW79	A14B	BYD13D	A5T5227	2N4125
40968	BLW81	A14C	1N5060	A5T5400	2N5400
40970	BLU20/12	A14C	BYD13G	A5T5400	2N5401
40971	BLU45/12	A14D	1N5060	A5T5550	2N5550
40972	BFQ42	A14D	BYD13G	A5T5551	2N5551
40973	BLY88C/01	A14E	1N5061	A5Y3505	PN2907
40977	BLY92A	A14E	BYD13J	A7T3392	2N4124
41009A	BLW79	A14F	1N5059	A7T5172	2N4124
41010	BLW81	A14F	BYD13D	A8T3702	MPS3702
41025	BLW33	A14M	1N5061	A8T3703	MPS3703
41026	BLV31	A14M	BYD13J	A8T3704	MPS3704
41027	BLW33	A14N	1N5062	A8T4058	2N5086
41028	BLV31	A14N	BYD13K	A8T4061	2N3906
510-25	BLV97	A14P	BYD13M	A8T5172	2N4124
8BSE30	BLV97	A14P	BYW56	AA113	1N4148
8MOB1	BLV90	A15A	BYM56A	AA114	1N4148
8MOB10	BLV93	A15B	BYM56A	AA116	1N4148
8MOB15	BLV94	A15C	BYM56B	AA129	1N4148
8MOB2	BLV91	A15D	BYM56B	AA131	1N4150
8MOB25	BLV95	A15E	BYM56C	AA137	1N4148
8MOB30	BLV95	A15F	BYM56A	AA138	1N4148
8MOB5	BLU99	A25-28	BLY93A	AA139	BAV21
8MOB5	BLV92	A3-28	BLV20	AAY10	1N4148
9BSE2	BLW32	A5T2192	PN2222A	AAY48	1N4148
9BSE35	BLV97	A5T2222	PN2222A	AAZ13	1N4148
A114A	BYD13D	A5T2243	MPSA06	AAZ18	1N4148
A114A	BYV95A	A5T2604	2N5086	AG01	BYD71G
A114B	BYD13D	A5T2605	2N5086	AG01	BYD73G
A114B	BYV95A	A5T2907	PN2907A	AG01A	BYV36C
A114C	BYD13G	A5T3392	2N4124	AG01Y	BYD71B
A114C	BYV95B	A5T3504	PN2907	AG01Y	BYD73B
A114D	BYD13G	A5T3506	PN2907	AG01Z	BYD71D
A114D	BYV95B	A5T3638A	MPS6534	AG01Z	BYD73D
A114E	BYD13J	A5T3644	PN2907	AGP15-200	1N5059
A114E	BYV95C	A5T3645	PN2907	AGP15-400	1N5060

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
AGP15-600	1N5061	AT25B	BFG90A	BA683	BA683
AGP15-800	1N5062	AT50	BFR90A	BAM20	BLV21
AK03	1N5818	AT51	BFR90A	BAM40	BLW86
AK04	1N5819	AT52	BFR90A	BAM40SR	BLW86
AL01Z	BYD73D	AU01	BYD31G	BAS11	BAS11
AM01	1N5060	AU01	BYD33G	BAS13	BAV20
AM01A	1N5061	AU01A	BYD31J	BAS16	BAS16
AM01Z	1N5059	AU01A	BYD33J	BAS16W	BAS16W
AM0912-120	MZ0912B250Y	AU01Z	BYD31D	BAS17	BAS17
AM0912-200	MX0912B250Y	AU01Z	BYD33D	BAS19	BAS19
AM0912-200	MZ0912B350Y	AU02	BYD33G	BAS20	BAS20
AM0912-300	MX0912B350Y	AU02A	BYD33J	BAS21	BAS21
AM0912-300	MZ0912B350Y	AU02Z	BYD33D	BAS28	BAS28
AM0912-350	MX0912B350Y	B12-12	BLY88C/01	BAS29	BAS29
AM0912-350	MZ0912B100Y	B12-28	BLY92	BAS31	BAS31
AM0912-80	MZ0912B100Y	B15-12	BLY88C	BAS32	BAS32
AM1214-175	RX1214B150W	B15-12	BLY88C/01	BAS32L	BAS32L
AM1214-300	RX1214B300Y	B30-12	BLY89C	BAS34	BAS11
AM2729-110	RX2731B90W	B3-28	BLV20	BAS35	BAS35
AM2931-110	RX2731B90W	B45-12	BLW60C	BAS45	BAS45
AM81416-12	PZ1418B15U	B5-8Z	BLY88C/01	BAS55	BAS55
AM81416-20	PZ1418B30U	B8-12	BLV10	BAS56	BAS56
AM81618-10	PZ1418B15U	BA127	1N4148	BAS616	BAS616
AM81618-16	PZ1418B30U	BA128	1N4148	BAS70	BAS70
AM81618-20	PZ1418B30U	BA130	1N4148	BAS70-04	BAS70-04
AM81719-30	PZ1721B25U	BA136	1N4148	BAS70-05	BAS70-05
AM81719-40	PXB16050U	BA152	1N4150	BAS70-06	BAS70-06
AM81720-12	PZ1721B12U	BA154	1N4150	BAS81	BAS81
AM81821-10	PZ1721B12U	BA157	BYD33G	BAS82	BAS82
AM81821-18	PZ1721B25U	BA157GP	BYD33G	BAS83	BAS83
AM82023-10	PZ2024B10U	BA158	BYD33J	BAS85	BAS85
AM82023-15	PZ2024B20U	BA158GP	BYD33J	BAS86	BAS86
AM82023-16	PZ2024B20U	BA159	BYD33M	BAT17	BAT17
AM82327-10	PZ2327B15U	BA159DGP	BYD33K	BAT18	BAT18
AM82327-15	PZ2327B15U	BA159GP	BYD33M	BAT19	BAT81
AM82729-30	RZ2731B32W	BA165	1N4150	BAT54	BAT54
AM82729-60	RZ2731B60W	BA166	1N4148	BAT54A	BAT54A
AM82931-30	RZ2731B32W	BA167	1N4148	BAT54AW	BAT54AW
AM82931-55	RZ2731B60W	BA192	BAV20	BAT54C	BAT54C
AM83135-15	RZ3135B14W	BA193	BAV20	BAT54CW	BAT54CW
AM83135-30	RZ3135B28W	BA194	BAV20	BAT54S	BAT54S
AM83135-40	RZ3135B42W	BA197	BAV20	BAT54SW	BAT54SW
AM83135-50	RZ3135B50W	BA198	BAV20	BAT54W	BAT54W
AP01C	BYD31M	BA200	1N4148	BAT74	BAT74
AS01	BYD33G	BA217	1N4148	BAT81	BAT81
AS01A	BYD33J	BA218	1N4148	BAT82	BAT82
AS01Z	BYD33D	BA231	BA231	BAT83	BAT83
AT0017	BFQ22S	BA282	BA482	BAT85	BAT85
AT0017A	BFQ22S	BA283	BA483	BAT86	BAT86
AT0025	BFG90A	BA480	BA480	BAT93	BAT93
AT0025A	BFG90A	BA481	BA481	BAV10	BAV10
AT0025B	BFG90A	BA482	BA482	BAV100	BAV100
AT004	BFQ22S	BA483	BA483	BAV101	BAV101
AT0045	BFQ22S	BA484	BA484	BAV102	BAV102
AT1425	BFR90A	BA582	BA582	BAV103	BAV103
AT25A	BFG90A	BA682	BA682	BAV105	BAV105

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BAV18	BAV18	BAY69	BAV10	BC327	BC327
BAV19	BAV19	BAY72	BAV19	BC327A	BC327A
BAV20	BAV20	BAY74	BAV10	BC327-16	BC327-16
BAV21	BAV21	BB112	BB112	BC327-25	BC327-25
BAV23	BAV23	BB119	BB119	BC327-40	BC327-40
BAV23S	BAV23S	BB130	BB130	BC328	BC328
BAV24	BAV10	BB131	BB131	BC328-16	BC328-16
BAV45	BAV45	BB132	BB132	BC328-25	BC328-25
BAV45,A	BAV45,A	BB133	BB133	BC328-40	BC328-40
BAV68	BAV19	BB134	BB134	BC368	BC368
BAV69	BAV20	BB135	BB135	BC369	BC369
BAV70	BAV70	BB139	BB809	BC376	BC376
BAV70W	BAV70W	BB141A	BB405B	BC546	BC546
BAV74	BAV74	BB204B	BB204B	BC546A	BC546A
BAV99	BAV99	BB204G	BB204G	BC546B	BC546B
BAV99W	BAV99W	BB212	BB212	BC556	BC556
BAW10	1N4150	BB215	BB215	BC556A	BC556A
BAW11	BAV19	BB219	BB219	BC556B	BC556B
BAW12	BAV20	BB221	BB405B	BC557	BC557
BAW24	1N4150	BB222	BB405B	BC557A	BC557A
BAW33	BAV19	BB329	BB909A	BC557B	BC557B
BAW46	BAV19	BB405B	BB405B	BC557C	BC557C
BAW47	BAV19	BB417	BB417	BC558	BC558
BAW50	BAV20	BB515	BB515	BC558A	BC558A
BAW51	BAV19	BB521	BB405B	BC558B	BC558B
BAW52	BAV20	BB529	BB405B	BC558C	BC558C
BAW53	BAV10	BB619	BB619	BC559	BC559
BAW54	BAV10	BB620	BB620	BC559A	BC559A
BAW55	BAV19	BB804	BB804	BC559B	BC559B
BAW56	BAW56	BB809	BB809	BC559C	BC559C
BAW56W	BAW56W	BB811	BB811	BC560	BC560
BAW62	1N4148	BB901	BB901	BC560A	BC560A
BAW62	BAW62	BB909A	BB909A	BC560B	BC560B
BAW75	1N4150	BB909B	BB909B	BC560C	BC560C
BAW76	1N4150	BB910	BB910	BC635	BC635
BAW77	BAV19	BB911	BB911	BC635-10	BC635-10
BAX12	BAX12	BBY31	BBY31	BC635-16	BC635-16
BAX14	1N914	BBY39	BBY39	BC636	BC636
BAX14	BAX14	BBY40	BBY40	BC636-10	BC636-10
BAX15	BAV20	BBY42	BBY42	BC636-16	BC636-16
BAX16	BAV20	BBY62	BBY62	BC637	BC637
BAX17	BAV20	BC141	BC141	BC637-10	BC637-10
BAX18	1N914	BC141-10	BC141-10	BC637-16	BC637-16
BAX18	BAX18	BC141-16	BC141-16	BC638	BC638
BAX20	BAV20	BC177	BC177	BC638-10	BC638-10
BAX21	BAV20	BC177A	BC177A	BC638-16	BC638-16
BAX83	BAV19	BC177B	BC177B	BC639	BC639
BAY17	BAV19	BC178	BC178	BC639-10	BC639-10
BAY18	BAV19	BC178A	BC178A	BC639-16	BC639-16
BAY19	BAV19	BC178B	BC178B	BC640	BC640
BAY20	BAV20	BC179	BC179	BC640-10	BC640-10
BAY43	1N4148	BC179A	BC179A	BC640-16	BC640-16
BAY60	BAV10	BC264A	BC264A	BC807	BC807
BAY61	BAV10	BC264B	BC264B	BC807W	BC807W
BAY63	BAV10	BC264C	BC264C	BC807-16	BC807-16
BAY68	BAV10	BC264D	BC264D	BC807-25	BC807-25

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BC807-40	BC807-40	BC860	BC860	BCR16DM12	BT139X-600F
BC808	BC808	BC860A	BC860A	BCR16DM12	BT139-600F
BC808W	BC808W	BC860B	BC860B	BCR16DM8	BT139X-500F
BC808-16	BC808-16	BC860C	BC860C	BCR16DM8	BT139-500F
BC808-25	BC808-25	BC860W	BC860W	BCR16PM12	BT139F-600F
BC808-40	BC808-40	BC868	BC868	BCR16PM8	BT139F-500F
BC817	BC817	BC869	BC869	BCR4AM12	BT136-600E
BC817W	BC817W	BCF29	BCF29	BCR4AM8	BT136-500E
BC817-16	BC817-16	BCF30	BCF30	BCR4PM12	BT136F-600E
BC817-25	BC817-25	BCF32	BCF32	BCR4PM8	BT136F-500E
BC817-40	BC817-40	BCF33	BCF33	BCR5AM12	BT137-600E
BC818W	BC818W	BCF70	BCF70	BCR5AM8	BT137-500E
BC818-16	BC818-16	BCF81	BCF81	BCR5DM12	BT137X-600E
BC818-25	BC818-25	BCP51	BCP51	BCR5DM8	BT137X-500E
BC818-40	BC818-40	BCP51-10	BCP51-10	BCR5PM12	BT137F-600E
BC846	BC846	BCP51-16	BCP51-16	BCR5PM8	BT137F-500E
BC846A	BC846A	BCP52	BCP52	BCR6AM12	BT137-600F
BC846B	BC846B	BCP52-10	BCP52-10	BCR6AM8	BT137-500F
BC846W	BC846W	BCP52-16	BCP52-16	BCR8CM12	BT137-600F
BC847	BC847	BCP53	BCP53	BCR8CM12	BT138-600F
BC847A	BC847A	BCP53-10	BCP53-10	BCR8CM8	BT137-500F
BC847B	BC847B	BCP53-16	BCP53-16	BCR8CM8	BT138-500F
BC847C	BC847C	BCP54	BCP54	BCR8DM12	BT137X-600F
BC847W	BC847W	BCP54-10	BCP54-10	BCR8DM12	BT138-600F
BC848	BC848	BCP54-16	BCP54-16	BCR8DM8	BT137X-500F
BC848A	BC848A	BCP55	BCP55	BCR8DM8	BT138-500F
BC848B	BC848B	BCP55-10	BCP55-10	BCR8PM12	BT137F-600F
BC848C	BC848C	BCP55-16	BCP55-16	BCR8PM8	BT137F-500F
BC848W	BC848W	BCP56	BCP56	BCV26	BCV26
BC849	BC849	BCP56-10	BCP56-10	BCV27	BCV27
BC849B	BC849B	BCP56-16	BCP56-16	BCV28	BCV28
BC849C	BC849C	BCP68	BCP68	BCV29	BCV29
BC849W	BC849W	BCP69	BCP69	BCV46	BCV46
BC850	BC850	BCP69-10	BCP69-10	BCV47	BCV47
BC850B	BC850B	BCP69-16	BCP69-16	BCV48	BCV48
BC850C	BC850C	BCP69-25	BCP69-25	BCV49	BCV49
BC850W	BC850W	BCR10CM12	BT138-600F	BCV61	BCV61
BC856	BC856	BCR10CM8	BT138-500F	BCV61A	BCV61A
BC856A	BC856A	BCR10DM12	BT138X-600F	BCV61B	BCV61B
BC856B	BC856B	BCR10DM12	BT138-600F	BCV61C	BCV61C
BC856W	BC856W	BCR10DM8	BT138X-500F	BCV62	BCV62
BC857	BC857	BCR10DM8	BT138-500F	BCV62A	BCV62A
BC857A	BC857A	BCR10PM12	BT138F-600F	BCV62B	BCV62B
BC857B	BC857B	BCR10PM8	BT138F-500F	BCV62C	BCV62C
BC857C	BC857C	BCR12CM12	BT138-600F	BCV63	BCV63
BC857W	BC857W	BCR12CM12	BT139-600F	BCV63B	BCV63B
BC858	BC858	BCR12CM8	BT138-500F	BCV64	BCV64
BC858A	BC858A	BCR12CM8	BT139-500F	BCV64B	BCV64B
BC858B	BC858B	BCR12DM12	BT138X-600F	BCV65	BCV65
BC858C	BC858C	BCR12DM12	BT139-600F	BCV65B	BCV65B
BC858W	BC858W	BCR12DM8	BT138X-500F	BCV71	BCV71
BC859	BC859	BCR12DM8	BT139-500F	BCV72	BCV72
BC859A	BC859A	BCR12PM12	BT138F-600F	BCW29	BCW29
BC859B	BC859B	BCR12PM8	BT138F-500F	BCW30	BCW30
BC859C	BC859C	BCR16CM12	BT139-600F	BCW31	BCW31
BC859W	BC859W	BCR16CM8	BT139-500F	BCW32	BCW32

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BCW33	BCW33	BCY58/VII	BCY58/VII	BF469	BF469
BCW60A	BCW60A	BCY58/VIII	BCY58/VIII	BF470	BF470
BCW60B	BCW60B	BCY58/X	BCY58/X	BF471	BF471
BCW60C	BCW60C	BCY59/IX	BCY59/IX	BF472	BF472
BCW60D	BCW60D	BCY59/VII	BCY59/VII	BF483	BF483
BCW61A	BCW61A	BCY59/VIII	BCY59/VIII	BF484	BF484
BCW61B	BCW61B	BCY59/X	BCY59/X	BF485	BF485
BCW61C	BCW61C	BCY70	BCY70	BF486	BF486
BCW61D	BCW61D	BCY71	BCY71	BF487	BF487
BCW69	BCW69	BCY78/IX	BCY78/IX	BF488	BF488
BCW70	BCW70	BCY78/VII	BCY78/VII	BF496	BF496
BCW71	BCW71	BCY78/VIII	BCY78/VIII	BF498	BF498
BCW72	BCW72	BCY78/X	BCY78/X	BF506	BF506
BCW81	BCW81	BCY79/IX	BCY79/IX	BF510	BF510
BCW89	BCW89	BCY79/VII	BCY79/VII	BF511	BF511
BCX17	BCX17	BCY79/VIII	BCY79/VIII	BF512	BF512
BCX18	BCX18	BD10CA-04S	PBYR1540CT	BF513	BF513
BCX19	BCX19	BD8CA-04S	PBYR1540CT	BF545A	BF545A
BCX20	BCX20	BDP31	BDP31	BF545B	BF545B
BCX22	BCX22	BDP32	BDP32	BF545C	BF545C
BCX23	BCX23	BF198	BF198	BF547	BF547
BCX51	BCX51	BF199	BF199	BF547W	BF547W
BCX51-10	BCX52-10	BF244	BF245	BF550	BF550
BCX51-16	BCX51-16	BF244A	BF245A	BF556A	BF556A
BCX52	BCX52	BF244B	BF245B	BF556B	BF556B
BCX52-10	BCX52-10	BF244C	BF245C	BF556C	BF556C
BCX52-16	BCX52-16	BF245A	BF245A	BF569	BF569
BCX53	BCX53	BF245B	BF245B	BF570	BF570
BCX53-10	BCX53-10	BF245C	BF245C	BF579	BF579
BCX53-16	BCX53-16	BF246A	BF246A	BF591	BF591
BCX54	BCX54	BF246A	BF247A	BF593	BF593
BCX54-10	BCX54-10	BF246B	BF246B	BF620	BF620
BCX54-16	BCX54-16	BF246B	BF247B	BF621	BF621
BCX55	BCX55	BF246C	BF246C	BF622	BF622
BCX55-10	BCX55-10	BF246C	BF247C	BF623	BF623
BCX55-16	BCX55-16	BF247A	BF247A	BF660	BF660
BCX56	BCX56	BF247B	BF247B	BF679	BFQ23
BCX56-10	BCX56-10	BF247C	BF247C	BF689K	BF689K
BCX56-16	BCX56-16	BF256A	BF256A	BF720	BF720
BCX70G	BCX70G	BF256B	BF256B	BF721	BF721
BCX70H	BCX70H	BF256C	BF256C	BF722	BF722
BCX70J	BCX70J	BF324	BF324	BF723	BF723
BCX70K	BCX70K	BF410A	BF410A	BF747	BF747
BCX71G	BCX71G	BF410B	BF410B	BF747W	BF747W
BCX71H	BCX71H	BF410C	BF410C	BF748	BF748
BCX71J	BCX71J	BF410D	BF410D	BF751	BF751
BCX71K	BCX71K	BF419	BF419	BF763	BF763
BCX78/IX	BCX78/IX	BF420	BF420	BF770A	BFR93A
BCX78/VII	BCX78/VII	BF421	BF421	BF771	BFR540
BCX78/VIII	BCX78/VIII	BF422	BF422	BF772	BFG540/X
BCX78/X	BCX78/X	BF423	BF423	BF772	BFG93A/XR
BCX79/IX	BCX79/IX	BF450	BF450	BF772R	BFG540/XR
BCX79/VII	BCX79/VII	BF451	BF451	BF775	BFR92A
BCX79/VIII	BCX79/VIII	BF457	BF457	BF775A	BFQ67
BCX79/X	BCX79/X	BF458	BF458	BF775A	BFR520
BCY58/IX	BCY58/IX	BF459	BF459	BF819	BF819

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BF820	BF820	BFG520	BFG520	BFQ22S	BFQ22S
BF821	BF821	BFG520/X	BFG520/X	BFQ23	BFQ23
BF822	BF822	BFG520/XR	BFG520/XR	BFQ231	BFQ231
BF823	BF823	BFG540	BFG540	BFQ231A	BFQ231A
BF824	BF824	BFG540/X	BFG540/X	BFQ232	BFQ232
BF840	BF840	BFG540/XR	BFG540/XR	BFQ232A	BFQ232A
BF841	BF841	BFG541	BFG541	BFQ233	BFQ233
BF857	BF857	BFG55	BFG55	BFQ233A	BFQ233A
BF858	BF858	BFG590	BFG590	BFQ234	BFQ234
BF859	BF859	BFG590/X	BFG590/X	BFQ235	BFQ235
BF869	BF869	BFG590/XR	BFG590/XR	BFQ235A	BFQ235A
BF870	BF870	BFG591	BFG591	BFQ236	BFQ236
BF871	BF871	BFG621	BFG621	BFQ236A	BFQ236A
BF872	BF872	BFG65	BFG65	BFQ23C	BFQ23C
BF960	BF960	BFG67(X)(XR)	BFG67(X)(XR)	BFQ24	BFQ24
BF964	BF964	BFG741	BFG741	BFQ251	BFQ251
BF964S	BR964S	BFG90A	BFG90A	BFQ251A	BFQ251A
BF965	BF965	BFG91A	BFG91A	BFQ252	BFQ252
BF966	BF966	BFG92A(X)(XR)	BFG92A(X)(XR)	BFQ252A	BFQ252A
BF966S	BF966S	BFG93A(X)(XR)	BFG93A(X)(XR)	BFQ253	BFQ253
BF980	BF980	BFG94	BFG94	BFQ253A	BFQ253A
BF980A	BF980A	BFG96	BFG96	BFQ254	BFQ254
BF981	BF981	BFG97	BFG97	BFQ255	BFQ255
BF982	BF982	BFP180	BFG25A/X	BFQ255A	BFQ255A
BF988	BF988	BFP181	BFG505/X	BFQ256	BFQ256
BF989	BF989	BFP182	BFG520/X	BFQ256A	BFQ256A
BF990	BF990	BFP183	BFG520/X	BFQ262	BFQ262
BF990A	BF990A	BFP193	BFG540/X	BFQ262A	BFQ262A
BF991	BF991	BFP193R	BFG540/XR	BFQ263	BFQ263
BF992	BF992	BFP196	BFG590/X	BFQ263A	BFQ263A
BF994S	BF994S	BFP280	BFG505/X	BFQ265	BFQ265
BF996S	BF996S	BFP505	BFP505	BFQ265A	BFQ265A
BF997	BF997	BFP520	BFP520	BFQ268	BFQ268
BF998	BF998	BFP540	BFP540	BFQ270	BFQ270
BFG10(/X)	BFG10(/X)	BFP645	BFP520	BFQ29P	BFR92A
BFG11(/X)	BFG11(/X)	BFP81	BFG67/X	BFQ32	BFQ324
BFG134	BFG134	BFP90A	BFP90A	BFQ32C	BFQ32C
BFG135	BFG135	BFP91A	BFP91A	BFQ32M	BFQ32M
BFG135A	BFQ135	BFP93A	BFG93A/X	BFQ32S	BFQ32S
BFG16A	BFG16A	BFP96	BFP96	BFQ33C	BFQ33C
BFG17A	BFG17A	BFQ108	BFQ108	BFQ34	BFQ34
BFG193	BFG541	BFQ135	BFQ135	BFQ34T	BFQ34T
BFG195	BFG195	BFQ136	BFQ136	BFQ42	BFQ42
BFG196	BFG591	BFQ149	BFQ149	BFQ43	BFQ43
BFG197(X)(XR)	BFG197(X)(XR)	BFQ161	BFQ161	BFQ43S	BFQ43S
BFG198	BFG198	BFQ162	BFQ162	BFQ51	BFQ51
BFG19S	BFG97	BFQ163	BFQ163	BFQ52	BFQ52
BFG25AX	BFG25A/X	BFQ166	BFQ166	BFQ53	BFQ53
BFG31	BFG31	BFQ17	BFQ17	BFQ54T	BFQ54T
BFG32	BFG32	BFQ17P	BFQ17	BFQ621	BFQ621
BFG33(X)(XR)	BFG33(X)(XR)	BFQ181	BFP505	BFQ63	BFQ63
BFG34	BFG34	BFQ182	BFP520	BFQ64	BFQ18
BFG35	BFG35	BFQ18A	BFQ18A	BFQ64	BFQ18A
BFG505	BFG505	BFQ19	BFQ19	BFQ65	BFQ65
BFG505/X	BFG505/X	BFQ19P	BFQ19	BFQ66	BFQ66
BFG505/XR	BFG505/XR	BFQ19S	BFQ19	BFQ67	BFQ67

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BFQ67W	BFQ67W	BFS20	BFS20	BGD506	BGD506
BFQ68	BFQ68	BFS22A	BFS22A	BGD508	BGD508
BFQ69	BFQ65	BFS23A	BFS23A	BGD601	BGD601
BFQ70	BFP90A	BFS25A	BFS25A	BGD602	BGD602
BFQ71	BFP90A	BFS505	BFS505	BGD602D	BGD602D
BFQ72	BFP91A	BFS520	BFS520	BGD702	BGD702
BFQ73	BFP96	BFS540	BFS540	BGD704	BGD704
BFQ73S	BFP96	BFS55A	BFQ22S	BGD885	BGD885
BFQ74	BFQ66	BFT24	BFT24	BGE85A	BGE85A
BFQ741	BFQ741	BFT25	BFT25	BGE88	BGE88
BFQ75	BFQ23C	BFT25A	BFT25A	BGE884	BGE884
BFQ76	BFQ51C	BFT44	BFT44	BGE885	BGE885
BFQ77	BFQ33C	BFT45	BFT45	BGE887	BGE887
BFQ81	BFQ67	BFT46	BFT46	BGX881	BGX881
BFQ82	BFP540	BFT65	BFR90A	BGX885N	BGX885N
BFR106	BFR106	BFT66	BFQ53	BGY1085A	BGY1085A
BFR134	BFR134	BFT92	BFT92	BGY110D	BGY110D
BFR15A	BFQ53	BFT92AW	BFT92AW	BGY110E	BGY110E
BFR180	BFT25A	BFT93	BFT93	BGY110F	BGY110F
BFR181	BFR505	BFT93AW	BFT93AW	BGY110G	BGY110G
BFR182	BFR520	BFT97	BFR90A	BGY112A	BGY112A
BFR183	BFR520	BFT98	BFQ135	BGY112B	BGY112B
BFR193	BFR540	BFT98B	BFQ135	BGY112C	BGY112C
BFR280	BFR505	BFT98T	BFQ34T	BGY113A	BGY113A
BFR30	BFR30	BFT99	BFQ135	BGY113B	BGY113B
BFR31	BFR31	BFT99B	BFQ135	BGY114A	BGY114A
BFR34A	BFR90A	BFU308	BFU308	BGY114B	BGY114B
BFR35AP	BFR92A	BFU309	BFU309	BGY114C	BGY114C
BFR505	BFR505	BFU310	BFU310	BGY114D	BGY114D
BFR520	BFR520	BFW10	BFW10	BGY114E	BGY114E
BFR521	BFR521	BFW11	BFW11	BGY115A	BGY115A
BFR53	BFR53	BFW12	BFW12	BGY115B	BGY115B
BFR540	BFR540	BFW13	BFW13	BGY115C	BGY115C
BFR541	BFR541	BFW16A	BFW16A	BGY115D	BGY115D
BFR591	BFR591	BFW17A	BFW17A	BGY116A	BGY116A
BFR90	BFR90	BFW30	BFW30	BGY116B	BGY116B
BFR90A	BFR90A	BFW92	BFW92	BGY116C	BGY116C
BFR91	BFR91	BFW92A	BFW92A	BGY116D	BGY116D
BFR91A	BFR91A	BFW93	BFW93	BGY116E	BGY116E
BFR92	BFR92	BFX152	BFQ231A	BGY118A	BGY118A
BFR92A	BFR92A	BFX153	BFQ251A	BGY118B	BGY118B
BFR92AW	BFR92AW	BFX154	BFQ232A	BGY118D	BGY118D
BFR92P	BFR92	BFX155	BFQ252A	BGY132	BGY132
BFR93	BFR93	BFX156	BFQ235A	BGY133	BGY133
BFR93A	BFR93A	BFX157	BFQ255A	BGY135	BGY135
BFR93AW	BFR93AW	BFX29	BFX29	BGY136	BGY136
BFR93P	BFR93	BFX30	BFX30	BGY143	BGY143
BFR95	BFR95	BFX34	BFX34	BGY145A	BGY145A
BFR96	BFR96	BFX85	BFX85	BGY145B	BGY145B
BFR96S	BFR96S	BFY90	BFY90	BGY145D	BGY145D
BFS17	BFS17	BGD102	BGD102	BGY200	BGY200
BFS17A	BFS17A	BGD104	BGD104	BGY201	BGY201
BFS17P	BFS17	BGD106	BGD106	BGY202	BGY202
BFS17W	BFS17W	BGD108	BGD108	BGY203	BGY203
BFS18	BFS18	BGD502	BGD502	BGY32	BGY32
BFS19	BFS19	BGD504	BGD504	BGY33	BGY33

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BGY35	BGY35	BLF242	BLF242	BLV20	BLV20
BGY36	BGY36	BLF244	BLF244	BLV21	BLV21
BGY43	BGY43	BLF245	BLF245	BLV25	BLV25
BGY46A	BGY46A	BLF245B	BLF245B	BLV30	BLV30
BGY46B	BGY46B	BLF246	BLF246	BLV31	BLV31
BGY47A	BGY47A	BLF246B	BLF246B	BLV32F	BLV32F
BGY580	BGY580	BLF247B	BLF247B	BLV33	BLV33
BGY581	BGY581	BLF248	BLF248	BLV33F	BLV33F
BGY582	BGY582	BLF276	BLF276	BLV36	BLV36
BGY583	BGY583	BLF277	BLF277	BLV37	BLV37
BGY584	BGY584	BLF278	BLF278	BLV38	BLV38
BGY584A	BGY584A	BLF346	BLF346	BLV45/12	BLV45/12
BGY585	BGY585	BLF348	BLF348	BLV57	BLV57
BGY585A	BGY585A	BLF368	BLF368	BLV58	BLV58
BGY586	BGY586	BLF378	BLF378	BLV59	BLV59
BGY587	BGY587	BLF521	BLF521	BLV62	BLV62
BGY587B	BGY587B	BLF522	BLF522	BLV75/12	BLV75/12
BGY588	BGY588	BLF542	BLF542	BLV80/28	BLV80/28
BGY61	BGY61	BLF543	BLF543	BLV90	BLV90
BGY65	BGY65	BLF544	BLF544	BLV90/SL	BLV90/SL
BGY67	BGY67	BLF544B	BLF544B	BLV91	BLV91
BGY67A	BGY67A	BLF545	BLF545	BLV91/SL	BLV91/SL
BGY681	BGY681	BLF546	BLF546	BLV92	BLV92
BGY683	BGY683	BLF547	BLF547	BLV93	BLV93
BGY685	BGY685	BLF548	BLF548	BLV94	BLV94
BGY685A	BGY685A	BLT53	BLT53	BLV945A	BLV945A
BGY685AD	BGY685AD	BLT80	BLT80	BLV948	BLV948
BGY685AL	BGY685AL	BLT81	BLT81	BLV95	BLV95
BGY687	BGY687	BLT90/SL	BLT90/SL	BLV97	BLV97
BGY687B	BGY687B	BLT91/SL	BLT91/SL	BLV97CE	BLV97CE
BGY785A	BGY785A	BLT92/SL	BLT92/SL	BLV98	BLV98
BGY787	BGY787	BLT93/SL	BLT93/SL	BLV98CE	BLV98CE
BGY80	BGY80	BLU10/12	BLU10/12	BLV99	BLV99
BGY81	BGY81	BLU11/SL	BLU11/SL	BLV99R	BLV99
BGY82	BGY82	BLU15/12	BLU15/12	BLV99/SL	BLV99/SL
BGY83	BGY83	BLU20/12	BLU20/12	BLW29	BLW29
BGY84	BGY84	BLU30/12	BLU30/12	BLW30	BLW30
BGY85	BGY85	BLU30/28	BLU30/28	BLW31	BLW31
BGY85H/01	BGY85H/01	BLU45/12	BLU45/12	BLW32	BLW32
BGY86	BGY86	BLU56	BLU56	BLW33	BLW33
BGY87	BGY87	BLU60/12	BLU60/12	BLW34	BLW34
BGY87B	BGY87B	BLU60/28	BLU60/28	BLW40	BLW40
BGY88	BGY88	BLU86	BLU86	BLW50F	BLW50F
BGY885A	BGY885A	BLU97	BLU97	BLW60C	BLW60C
BGY89	BGY89	BLU98	BLU98	BLW60CF	BLW85
BGY95A	BGY95A	BLU99	BLU99	BLW76	BLW76
BGY95B	BGY95B	BLU99/SL	BLU99/SL	BLW77	BLW77
BGY96A	BGY96A	BLV10	BLV10	BLW78	BLW78
BGY96B	BGY96B	BLV100	BLV100	BLW79	BLW79
BLF145	BLF145	BLV101	BLV101	BLW80	BLW80
BLF147	BLF147	BLV103	BLV103	BLW81	BLW81
BLF175	BLF175	BLV11	BLV11	BLW83	BLW83
BLF177	BLF177	BLV12	BLV12	BLW84	BLW84
BLF221	BLF221	BLV13	BLV13	BLW85	BLW85
BLF225	BLF225	BLV193	BLV193	BLW86	BLW86
BLF241	BLF241	BLV194	BLV194	BLW87	BLW87

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BLW89	BLW89	BR211-220	BR211-220	BSP127	BSP127
BLW90	BLW90	BR211-240	BR211-240	BSP128	BSP128
BLW91	BLW91	BR211-260	BR211-260	BSP130	BSP130
BLW95	BLW95	BR211-280	BR211-280	BSP145	BSP145
BLW96	BLW96	BRX44	BT169-B	BSP15	BSP15
BLW97	BLW97	BRX45	BT169-B	BSP152	BSP152
BLW98	BLW98	BRX46	BT169-B	BSP16	BSP16
BLW99	BLW99	BRX47	BT169-B	BSP19	BSP19
BLX13	BLX13	BRX49	BT169-D	BSP20	BSP20
BLX13C	BLX13C	BRY39	BRY39	BSP204	BSP204
BLX14	BLX14	BRY55-100	BT169-B	BSP204A	BSP204A
BLX15	BLX15	BRY55-200	BT160-B	BSP205	BSP205
BLX39	BLX39	BRY55-30	BT169-B	BSP206	BSP206
BLX65	BLX65	BRY55-400	BT169-D	BSP220	BSP220
BLX65E	BLX65E	BRY55-500	BT160-E	BSP225	BSP225
BLX65ES	BLX65ES	BRY55-60	BT169-B	BSP254	BSP254
BLX91A	BLX91A	BRY55-600	BT169-G	BSP254A	BSP254A
BLX92A	BLX92A	BRY56	BRY56	BSP30	BSP30
BLX93A	BLX93A	BRY61	BRY61	BSP31	BSP31
BLX94A	BLX94A	BRY62	BRY62	BSP32	BSP32
BLX94C	BLX94C	BS107	BS107	BSP33	BSP33
BLX95	BLX95	BS107A	BST74A	BSP40	BSP40
BLX96	BLX96	BS170	BS170	BSP41	BSP41
BLX97	BLX97	BS250	BS250	BSP42	BSP42
BLX98	BLX98	BSD12	BSD12	BSP43	BSP43
BLY87C	BLY87C	BSD20	BSD20	BSP50	BSP50
BLY87CF	BLV10	BSD212	BSD212	BSP51	BSP51
BLY87C/01	BLY87C/01	BSD213	BSD213	BSP52	BSP52
BLY88C	BLY88C	BSD214	BSD214	BSP60	BSP60
BLY88CF	BLV11	BSD215	BSD215	BSP61	BSP61
BLY88C/01	BLY88C/01	BSD22	BSD22	BSP62	BSP62
BLY89C	BLY89C	BSJ108	BSJ108	BSP89	BSP89
BLY89CF	BLW87	BSN10	BSN10	BSP92	BSP92
BLY91A	BLY91A	BSN10A	BSN10A	BSR111	PMBFJ111
BLY91C	BLY91C	BSN12A	BSN12A	BSR112	PMBFJ112
BLY91CF	BLV20	BSN20	BSN20	BSR113	PMBFJ113
BLY91C/01	BLY91C/01	BSN204	BSN204	BSR12	BSR12
BLY92A	BLY92A	BSN204A	BSN204A	BSR13	BSR13
BLY92C	BLY92C	BSN205	BSN205	BSR14	BSR14
BLY92CF	BLV21	BSN205A	BSN205A	BSR15	BSR15
BLY92C/01	BLY92C/01	BSN22	BSN22	BSR16	BSR16
BLY93A	BLY93A	BSN254	BSN254	BSR174	PMBFJ174
BLY93C	BLY93C	BSN254A	BSN254A	BSR175	PMBFJ175
BLY93CF	BLW84	BSN274	BSN274	BSR176	PMBFJ176
BLY94	BLY94	BSN274A	BSN274A	BSR177	PMBFJ177
BM45-12	BLV45/12	BSN304	BSN304	BSR17A	BSR17A
BM70-12	BLV75/12	BSN304A	BSN304A	BSR18A	BSR18A
BM80-12	BLV75/12	BSP106	BSP106	BSR19	BSR19
BR100/03	BR100/03	BSP107	BSP107	BSR19A	BSR19A
BR101	BR101	BSP108	BSP108	BSR20	BSR20
BR211-100	BR211-100	BSP110	BSP110	BSR20A	BSR20A
BR211-120	BR211-120	BSP120	BSP120	BSR30	BSR30
BR211-140	BR211-140	BSP121	BSP121	BSR31	BSR31
BR211-160	BR211-160	BSP122	BSP122	BSR32	BSR32
BR211-180	BR211-180	BSP124	BSP124	BSR33	BSR33
BR211-200	BR211-200	BSP126	BSP126	BSR40	BSR40

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BSR41	BSR41	BST76A	BST76A	BT134W-800	BT134W-800
BSR42	BSR42	BST78	BST78	BT134-500	BT134-500
BSR43	BSR43	BST80	BST80	BT134-500D	BT134-500D
BSR50	BSR50	BST82	BST82	BT134-500E	BT134-500E
BSR51	BSR51	BST84	BST84	BT134-500F	BT134-500F
BSR52	BSR52	BST86	BST86	BT134-500G	BT134-500G
BSR56	BSR56	BSTC1026	BT151-500R	BT134-600	BT134-600
BSR57	BSR57	BSTC1026M	BT151-500R	BT134-600D	BT134-600D
BSR58	BSR58	BSTC1033	BT151-500R	BT134-600E	BT134-600E
BSR60	BSR60	BSTC1033M	BT151-500R	BT134-600F	BT134-600F
BSR61	BSR61	BSTC1040	BT151-650R	BT134-600G	BT134-600G
BSR62	BSR62	BSTC1040D	BT151-650R	BT134-700	BT134-700
BSR67	BST70A	BSTC1040MD	BT151-650R	BT134-700E	BT134-700E
BSS100	BS170	BSTC1046	BT151-800R	BT134-700F	BT134-700F
BSS100	BSS100	BSTC1046D	BT151-800R	BT134-700G	BT134-700G
BSS101	BST74A	BSTC1046M	BT151-800R	BT134-800	BT134-800
BSS110	BST110	BSTC1046MD	BT151-800R	BT134-800E	BT134-800E
BSS123	BSS123	BSTD1026	BT151-500R	BT134-800F	BT134-800F
BSS192	BSS192	BSTD1026M	BT151-500R	BT134-800G	BT134-800G
BSS38	BSS38	BSTD1033	BT151-500R	BT136F-500	BT136F-500
BSS44	BSS44	BSTD1033M	BT151-500R	BT136F-500D	BT136F-500D
BSS50	BSS50	BSTD1040	BT151-650R	BT136F-500E	BT136F-500E
BSS51	BSS51	BSTD1040M	BT151-650R	BT136F-500F	BT136F-500F
BSS52	BSS52	BSTD1040MD	BT151-650R	BT136F-500G	BT136F-500G
BSS60	BSS60	BSTD1046	BT151-800R	BT136F-600	BT136F-600
BSS61	BSS61	BSTD1046M	BT151-800R	BT136F-600D	BT136F-600D
BSS62	BSS62	BSTD1053	BT151-800R	BT136F-600E	BT136F-600E
BSS63	BSS63	BSTD1053M	BT151-800R	BT136F-600F	BT136F-600F
BSS64	BSS64	BSV52	BSV52	BT136F-600G	BT136F-600G
BSS68	BSS68	BSV64	BSV64	BT136F-700	BT136F-700
BSS83	BSS83	BSV78	BSV78	BT136F-700E	BT136F-700E
BSS84	BSS84	BSV80	BSV80	BT136F-700F	BT136F-700F
BSS84	BST110	BSV81	BSV81	BT136F-700G	BT136F-700G
BSS87	BSS87	BSW66A	BSW66A	BT136F-800	BT136F-800
BSS88	BSS88	BSW67A	BSW67A	BT136F-800E	BT136F-800E
BSS89	BSS89	BSW68A	BSW68A	BT136F-800F	BT136F-800F
BSS91	BSS91	BSX20	BSX20	BT136F-800G	BT136F-800G
BSS92	BSS92	BSX32	BSX32	BT136X-500	BT136X-500
BST100	BST100	BSX45	BSX45	BT136X-500D	BT136X-500D
BST110	BST110	BSX45-10	BSX45-10	BT136X-500E	BT136X-500E
BST120	BST120	BSX45-16	BSX45-16	BT136X-500F	BT136X-500F
BST122	BST122	BSX46	BSX46	BT136X-500G	BT136X-500G
BST124	BST124	BSX46-10	BSX46-10	BT136X-600	BT136X-600
BST15	BST15	BSX46-16	BSX46-16	BT136X-600D	BT136X-600D
BST16	BST16	BSX47	BSX47	BT136X-600E	BT136X-600E
BST39	BST39	BSX47-10	BSX47-10	BT136X-600F	BT136X-600F
BST40	BST40	BSX59	BSX59	BT136X-600G	BT136X-600G
BST50	BST50	BSX60	BSX60	BT136X-700	BT136X-700
BST51	BST51	BSX61	BSX61	BT136X-700E	BT136X-700E
BST52	BST52	BT134W-500	BT134W-500	BT136X-700F	BT136X-700F
BST60	BST60	BT134W-500D	BT134W-500D	BT136X-700G	BT136X-700G
BST61	BST61	BT134W-500E	BT134W-500E	BT136X-800	BT136X-800
BST62	BST62	BT134W-600	BT134W-600	BT136X-800E	BT136X-800E
BST70A	BST70A	BT134W-600D	BT134W-600D	BT136X-800F	BT136X-800F
BST72A	BST72A	BT134W-600E	BT134W-600E	BT136X-800G	BT136X-800G
BST74A	BST74A	BT134W-700	BT134W-700	BT136-500	BT136-500

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BT136-500D	BT136-500D	BT137-500F	BT137-500F	BT138-700E	BT138-700E
BT136-500E	BT136-500E	BT137-500G	BT137-500G	BT138-700F	BT138-700F
BT136-500F	BT136-500F	BT137-600	BT137-600	BT138-700G	BT138-700G
BT136-500G	BT136-500G	BT137-600D	BT137-600D	BT138-800	BT138-800
BT136-600	BT136-600	BT137-600E	BT137-600E	BT138-800E	BT138-800E
BT136-600D	BT136-600D	BT137-600F	BT137-600F	BT138-800F	BT138-800F
BT136-600E	BT136-600E	BT137-600G	BT137-600G	BT138-800G	BT138-800G
BT136-600F	BT136-600F	BT137-700	BT137-700	BT139F-500	BT139F-500
BT136-600G	BT136-600G	BT137-700E	BT137-700E	BT139F-500E	BT139F-500E
BT136-700	BT136-700	BT137-700F	BT137-700F	BT139F-500F	BT139F-500F
BT136-700E	BT136-700E	BT137-700G	BT137-700G	BT139F-500G	BT139F-500G
BT136-700F	BT136-700F	BT137-800	BT137-800	BT139F-600	BT139F-600
BT136-700G	BT136-700G	BT137-800E	BT137-800E	BT139F-600E	BT139F-600E
BT136-800	BT136-800	BT137-800F	BT137-800F	BT139F-600F	BT139F-600F
BT136-800E	BT136-800E	BT137-800G	BT137-800G	BT139F-600G	BT139F-600G
BT136-800F	BT136-800F	BT138F-500	BT138F-500	BT139F-700	BT139F-700
BT136-800G	BT136-800G	BT138F-500E	BT138F-500E	BT139F-700E	BT139F-700E
BT137F-500	BT137F-500	BT138F-500F	BT138F-500F	BT139F-700F	BT139F-700F
BT137F-500D	BT137F-500D	BT138F-500G	BT138F-500G	BT139F-700G	BT139F-700G
BT137F-500E	BT137F-500E	BT138F-600	BT138F-600	BT139F-800	BT139F-800
BT137F-500F	BT137F-500F	BT138F-600E	BT138F-600E	BT139F-800E	BT139F-800E
BT137F-500G	BT137F-500G	BT138F-600F	BT138F-600F	BT139F-800F	BT139F-800F
BT137F-600	BT137F-600	BT138F-600G	BT138F-600G	BT139F-800G	BT139F-800G
BT137F-600D	BT137F-600D	BT138F-700	BT138F-700	BT139X-500	BT139X-500
BT137F-600E	BT137F-600E	BT138F-700E	BT138F-700E	BT139X-500E	BT139X-500E
BT137F-600F	BT137F-600F	BT138F-700F	BT138F-700F	BT139X-500F	BT139X-500F
BT137F-600G	BT137F-600G	BT138F-700G	BT138F-700G	BT139X-500G	BT139X-500G
BT137F-700	BT137F-700	BT138F-800	BT138F-800	BT139X-500H	BT139X-500H
BT137F-700E	BT137F-700E	BT138F-800E	BT138F-800E	BT139X-600	BT139X-600
BT137F-700F	BT137F-700F	BT138F-800F	BT138F-800F	BT139X-600E	BT139X-600E
BT137F-700G	BT137F-700G	BT138F-800G	BT138F-800G	BT139X-600F	BT139X-600F
BT137F-800	BT137F-800	BT138X-500	BT138X-500	BT139X-600G	BT139X-600G
BT137F-800E	BT137F-800E	BT138X-500E	BT138X-500E	BT139X-600H	BT139X-600H
BT137F-800F	BT137F-800F	BT138X-500F	BT138X-500F	BT139X-700	BT139X-700
BT137F-800G	BT137F-800G	BT138X-500G	BT138X-500G	BT139X-700E	BT139X-700E
BT137X-500	BT137X-500	BT138X-600	BT138X-600	BT139X-700F	BT139X-700F
BT137X-500D	BT137X-500D	BT138X-600E	BT138X-600E	BT139X-700G	BT139X-700G
BT137X-500E	BT137X-500E	BT138X-600F	BT138X-600F	BT139X-700H	BT139X-700H
BT137X-500F	BT137X-500F	BT138X-600G	BT138X-600G	BT139X-800	BT139X-800
BT137X-500G	BT137X-500G	BT138X-700	BT138X-700	BT139X-800E	BT139X-800E
BT137X-600	BT137X-600	BT138X-700E	BT138X-700E	BT139X-800F	BT139X-800F
BT137X-600D	BT137X-600D	BT138X-700F	BT138X-700F	BT139X-800G	BT139X-800G
BT137X-600E	BT137X-600E	BT138X-700G	BT138X-700G	BT139X-800H	BT139X-800H
BT137X-600F	BT137X-600F	BT138X-800	BT138X-800	BT139-500	BT139-500
BT137X-600G	BT137X-600G	BT138X-800E	BT138X-800E	BT139-500E	BT139-500E
BT137X-700	BT137X-700	BT138X-800F	BT138X-800F	BT139-500F	BT139-500F
BT137X-700E	BT137X-700E	BT138X-800G	BT138X-800G	BT139-500G	BT139-500G
BT137X-700F	BT137X-700F	BT138-500	BT138-500	BT139-500H	BT139-500H
BT137X-700G	BT137X-700G	BT138-500E	BT138-500E	BT139-600	BT139-600
BT137X-800	BT137X-800	BT138-500F	BT138-500F	BT139-600E	BT139-600E
BT137X-800E	BT137X-800E	BT138-500G	BT138-500G	BT139-600F	BT139-600F
BT137X-800F	BT137X-800F	BT138-600	BT138-600	BT139-600G	BT139-600G
BT137X-800G	BT137X-800G	BT138-600E	BT138-600E	BT139-600H	BT139-600H
BT137-500	BT137-500	BT138-600F	BT138-600F	BT139-700	BT139-700
BT137-500D	BT137-500D	BT138-600G	BT138-600G	BT139-700E	BT139-700E
BT137-500E	BT137-500E	BT138-700	BT138-700	BT139-700F	BT139-700F

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BT139-700G	BT139-700G	BTA06-600B	BT137X-600G	BTA12-600B	BT138X-600G
BT139-700H	BT139-700H	BTA06-600BW	BTA208X-600B	BTA12-600BW	BTA212X-600B
BT139-800	BT139-800	BTA06-600C	BT137X-600F	BTA12-600C	BT138X-600F
BT139-800E	BT139-800E	BTA06-600D	BT137X-600D	BTA12-600SW	BT138X-600E
BT139-800F	BT139-800F	BTA06-600GP	BT138X-600	BTA12-700B	BT138X-700G
BT139-800G	BT139-800G	BTA06-600S	BT137X-600D	BTA12-700BW	BTA212X-800B
BT139-800H	BT139-800H	BTA06-600SW	BT137X-600E	BTA12-700C	BT138X-700F
BT145-500R	BT145-500R	BTA06-600TW	BT137X-600D	BTA12-700SW	BT138X-700E
BT145-600R	BT145-600R	BTA06-700A	BT137X-700E	BTA12-800B	BT138X-800G
BT145-800R	BT145-800R	BTA06-700B	BT137X-700G	BTA12-800BW	BTA212X-800B
BT148W	BT148W	BTA06-700BW	BTA208X-800B	BTA12-800C	BT138X-800F
BT148W-400R	BT148W-400R	BTA06-700C	BT137X-700F	BTA140-500	BTA140-500
BT148W-500R	BT148W-500R	BTA06-700SW	BT137X-700E	BTA140-600	BTA140-600
BT148W-600R	BT148W-600R	BTA06-800B	BT137X-800G	BTA140-700	BTA140-700
BT148-400R	BT148-400R	BTA06-800BW	BTA208X-800B	BTA140-800	BTA140-800
BT148-500R	BT148-500R	BTA06-800C	BT137X-800F	BTA151-500R	BTA151-500R
BT148-600R	BT148-600R	BTA08-400A	BT137X-500E	BTA151-650R	BTA151-650R
BT149B	BT149B	BTA08-400B	BT137X-500G	BTA151-800R	BTA151-800R
BT149D	BT149D	BTA08-400BW	BTA208X-600B	BTA16-400B	BT139X-500G
BT149E	BT149E	BTA08-400C	BT137X-500F	BTA16-400BW	BTA216X-600B
BT149G	BT149G	BTA08-400S	BT137X-500D	BTA16-600B	BT139X-600G
BT150	BT150	BTA08-400SW	BT137X-500E	BTA16-600BW	BTA216X-600B
BT150-500R	BT150-500R	BTA08-400TW	BT137X-500D	BTA16-700B	BT139X-700G
BT151F-500	BT151F-500	BTA08-600A	BT137X-600E	BTA16-700BW	BTA216X-800B
BT151F-650	BT151F-650	BTA08-600B	BT137X-600G	BTA16-800B	BT139X-800G
BT151F-800	BT151F-800	BTA08-600BW	BTA208X-600B	BTA16-800BW	BTA216X-800B
BT151X-500	BT151X-500	BTA08-600C	BT137X-600F	BTA208X-600B	BTA208X-600B
BT151X-650	BT151X-650	BTA08-600S	BT137X-600D	BTA208X-800B	BTA208X-800B
BT151X-800	BT151X-800	BTA08-600SW	BT137X-600E	BTA208-600B	BTA208-600B
BT151-500R	BT151-500R	BTA08-600TW	BT137X-600D	BTA208-800B	BTA208-800B
BT151-650R	BT151-650R	BTA08-700A	BT137X-700E	BTA20C	BT137-500G
BT151-800R	BT151-800R	BTA08-700B	BT137X-700G	BTA20C	BT138-500G
BT152-400R	BT152-400R	BTA08-700BW	BTA208X-800B	BTA20D	BT137-500G
BT152-600R	BT152-600R	BTA08-700C	BT137X-700F	BTA20D	BT138-500G
BT152-800R	BT152-800R	BTA08-700SW	BT137X-700E	BTA20E	BT137-500G
BT169B	BT169B	BTA08-800B	BT137X-800G	BTA20E	BT138-500G
BT169D	BT169D	BTA08-800BW	BTA208X-800B	BTA20M	BT137-600G
BT169E	BT169E	BTA08-800C	BT137X-800F	BTA20N	BT137-800G
BT169G	BT169G	BTA10-400B	BT138X-500G	BTA212X-600B	BTA212X-600B
BTA04-400A	BT136X-500E	BTA10-400BW	BTA212X-600B	BTA212X-800B	BTA212X-800B
BTA04-400D	BT136X-500D	BTA10-400C	BT138X-500F	BTA212-600B	BTA212-600B
BTA04-400S	BT136X-500D	BTA10-400GP	BT139X-500	BTA212-800B	BTA212-800B
BTA04-600A	BT136X-600E	BTA10-600B	BT138X-600G	BTA216X-600B	BTA216X-600B
BTA04-600D	BT136X-600D	BTA10-600BW	BTA212X-600B	BTA216X-800B	BTA216X-800B
BTA04-600S	BT136X-600D	BTA10-600C	BT138X-600F	BTA216-600B	BTA216-600B
BTA04-700A	BT136X-700E	BTA10-600GP	BT139X-600	BTA216-800B	BTA216-800B
BTA06-400A	BT137X-500E	BTA10-700B	BT138X-700G	BTA21C	BT137-500
BTA06-400B	BT137X-500G	BTA10-700BW	BTA212X-800B	BTA21C	BT138-500F
BTA06-400BW	BTA208X-600B	BTA10-700C	BT138X-700F	BTA21D	BT137-500
BTA06-400C	BT137X-500F	BTA10-800B	BT138X-800G	BTA21D	BT138-500F
BTA06-400D	BT137X-500D	BTA10-800BW	BTA212X-800B	BTA21E	BT137-500
BTA06-400GP	BT138X-500	BTA10-800C	BT138X-800F	BTA21E	BT138-500F
BTA06-400S	BT137X-500D	BTA12-400B	BT138X-500G	BTA21M	BT137-600
BTA06-400SW	BT137X-500E	BTA12-400BW	BTA212X-600B	BTA21N	BT137-800
BTA06-400TW	BT137X-500D	BTA12-400C	BT138X-500F	BTA225-600B	BTA225-600B
BTA06-600A	BT137X-600E	BTA12-400SW	BT138X-500E	BTA225-800B	BTA225-800B

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BTA22B	BT138-500	BTB06-600BW	BTA208-600B	BTB10-600B	BT139-600G
BTA22B	BT138-500F	BTB06-600C	BT137-600F	BTB10-600BW	BTA212-600B
BTA22C	BT138-500	BTB06-600D	BT137-600D	BTB10-600C	BT138-600F
BTA22C	BT139-500F	BTB06-600S	BT137-600D	BTB10-600C	BT139-600E
BTA22D	BT138-500	BTB06-600SW	BT137-600E	BTB10-700B	BT138-700G
BTA22D	BT139-500F	BTB06-600TW	BT137-600D	BTB10-700B	BT139-800G
BTA22E	BT138-500	BTB06-700A	BT137-700E	BTB10-700BW	BTA212-800B
BTA22E	BT139-500F	BTB06-700A	BT137-800E	BTB10-700C	BT138-700F
BTA22M	BT138-600	BTB06-700B	BT137-700G	BTB10-700C	BT139-800E
BTA22M	BT138-600F	BTB06-700BW	BTA208-800B	BTB10-800B	BT138-800G
BTA22N	BT138-800	BTB06-700C	BT137-700F	BTB10-800B	BT139-800G
BTA23B	BT138-500	BTB06-700SW	BT137-700E	BTB10-800BW	BTA212-800B
BTA23B	BT139-500F	BTB06-800A	BT137-800E	BTB10-800C	BT138-800F
BTA23C	BT138-500	BTB06-800B	BT137-800G	BTB10-800C	BT139-800E
BTA23C	BT139-500F	BTB06-800BW	BTA208-800B	BTB12-200B	BT139-500G
BTA23D	BT138-500	BTB06-800C	BT137-800F	BTB12-200C	BT139-500E
BTA23D	BT139-500F	BTB08-200B	BT138-500G	BTB12-400B	BT138-500G
BTA23E	BT138-500	BTB08-200C	BT138-500E	BTB12-400B	BT139-500G
BTA23E	BT139-500F	BTB08-400A	BT137-500E	BTB12-400BW	BTA212-600B
BTA23M	BT138-600	BTB08-400B	BT137-500G	BTB12-400C	BT138-500F
BTA23M	BT139-600F	BTB08-400B	BT138-500G	BTB12-400C	BT139-500E
BTA23N	BT138-800	BTB08-400BW	BTA208-600B	BTB12-400SW	BT138-500E
BTB04-200A	BT137-500E	BTB08-400C	BT137-500F	BTB12-600B	BT138-600G
BTB04-200D	BT137-500D	BTB08-400C	BT138-500E	BTB12-600B	BT139-600G
BTB04-200T	BT137-500D	BTB08-400S	BT137-500D	BTB12-600BW	BTA212-600B
BTB04-400A	BT136-500E	BTB08-400SW	BT137-500E	BTB12-600C	BT138-600F
BTB04-400A	BT137-500E	BTB08-400TW	BT137-500D	BTB12-600C	BT139-600E
BTB04-400D	BT136-500D	BTB08-600A	BT137-600E	BTB12-600SW	BT138-600E
BTB04-400D	BT137-500D	BTB08-600B	BT137-600G	BTB12-700B	BT138-700G
BTB04-400S	BT136-500D	BTB08-600B	BT138-600G	BTB12-700B	BT139-800G
BTB04-400S	BT137-500D	BTB08-600BW	BTA208-600B	BTB12-700BW	BTA212-800B
BTB04-400T	BT137-500D	BTB08-600C	BT137-600F	BTB12-700C	BT138-700F
BTB04-600A	BT136-600E	BTB08-600C	BT138-600E	BTB12-700C	BT139-800E
BTB04-600A	BT137-600E	BTB08-600S	BT137-600D	BTB12-700SW	BT138-700E
BTB04-600D	BT136-600D	BTB08-600SW	BT137-600E	BTB12-800B	BT138-800G
BTB04-600S	BT136-600D	BTB08-600TW	BT137-600D	BTB12-800B	BT139-800G
BTB04-700A	BT136-700E	BTB08-700A	BT137-700E	BTB12-800BW	BTA212-800B
BTB04-700A	BT137-800E	BTB08-700B	BT137-700G	BTB12-800C	BT138-800F
BTB04-800A	BT137-800E	BTB08-700B	BT138-800G	BTB12-800C	BT139-800E
BTB06-200A	BT137-500E	BTB08-700BW	BTA208-800B	BTB16-200B	BTA140-500
BTB06-200B	BT138-500G	BTB08-700C	BT137-700F	BTB16-400B	BT139-500G
BTB06-200D	BT137-500D	BTB08-700C	BT138-800E	BTB16-400B	BTA140-500
BTB06-200S	BT137-500D	BTB08-700SW	BT137-700E	BTB16-400BW	BTA216-600B
BTB06-200T	BT137-500D	BTB08-800B	BT137-800G	BTB16-600B	BT139-600G
BTB06-400A	BT137-500E	BTB08-800B	BT138-800G	BTB16-600B	BTA140-600
BTB06-400B	BT137-500G	BTB08-800BW	BTA208-800B	BTB16-600BW	BTA216-600B
BTB06-400B	BT138-500G	BTB08-800C	BT137-800F	BTB16-700B	BT139-700G
BTB06-400BW	BTA208-600B	BTB08-800C	BT138-800E	BTB16-700B	BTA140-800
BTB06-400C	BT137-500F	BTB10-200B	BT139-500G	BTB16-700BW	BTA216-800B
BTB06-400D	BT137-500D	BTB10-200C	BT139-500E	BTB16-800B	BT139-800G
BTB06-400S	BT137-500D	BTB10-400B	BT138-500G	BTB16-800B	BTA140-800
BTB06-400SW	BT137-500E	BTB10-400B	BT139-500G	BTB16-800BW	BTA216-800B
BTB06-400TW	BT137-500D	BTB10-400BW	BTA212-600B	BTB19-200B	BTA140-500
BTB06-600A	BT137-600E	BTB10-400C	BT138-500F	BTB19-400B	BTA140-500
BTB06-600A	BT138-600G	BTB10-400C	BT139-500E	BTB19-600B	BTA140-600
BTB06-600B	BT137-600G	BTB10-600B	BT138-600G	BTB19-700B	BTA140-800

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BTB19-800B	BTA140-800	BU506D	BU506D	BUK438-800B	BUK438-800B
BTB20-400BW	BTA225-600B	BU506DF	BU506DF	BUK441-100A	BUK441-100A
BTB20-600BW	BTA225-600B	BU508A	BU508A	BUK441-100B	BUK441-100B
BTB20-700BW	BTA225-800B	BU508AF	BU508AF	BUK441-50A	BUK441-50A
BTB20-800BW	BTA225-800B	BU508D	BU508D	BUK441-50B	BUK441-50B
BTB24-400B	BTA140-500	BU508DF	BU508DF	BUK442-100A	BUK442-100A
BTB24-400BW	BTA225-600B	BU706	BU706	BUK442-100B	BUK442-100B
BTB24-600B	BTA140-600	BU706D	BU706D	BUK442-50A	BUK442-50A
BTB24-600BW	BTA225-600B	BU706DF	BU706DF	BUK442-50B	BUK442-50B
BTB24-700B	BTA140-700	BU826	BU826	BUK443-100A	BUK443-100A
BTB24-700B	BTA140-800	BU826A	BU826A	BUK443-100B	BUK443-100B
BTB24-700BW	BTA225-800B	BU903	BU903	BUK443-50A	BUK443-50A
BTB24-800B	BTA140-800	BUI708X	BUI708X	BUK443-50B	BUK443-50B
BTB24-800BW	BTA225-800B	BUK100-50DL	BUK100-50DL	BUK443-60A	BUK443-60A
BTW43-1000GU	BTW43-1000GU	BUK100-50GL	BUK100-50GL	BUK443-60B	BUK443-60B
BTW43-1000HU	BTW43-1000HU	BUK100-50GS	BUK100-50GS	BUK444-200A	BUK444-200A
BTW43-1200GU	BTW43-1200GU	BUK101-50DL	BUK101-50DL	BUK444-200B	BUK444-200B
BTW43-1200HU	BTW43-1200HU	BUK101-50GL	BUK101-50GL	BUK444-400B	BUK444-400B
BTW43-600GU	BTW43-600GU	BUK101-50GS	BUK101-50GS	BUK444-500B	BUK444-500B
BTW43-600HU	BTW43-600HU	BUK102-50DL	BUK102-50DL	BUK444-600B	BUK444-600B
BTW43-800GU	BTW43-800GU	BUK102-50GL	BUK102-50GL	BUK444-800A	BUK444-800A
BTW43-800HU	BTW43-800HU	BUK102-50GS	BUK102-50GS	BUK444-800B	BUK444-800B
BU1508AX	BU1508AX	BUK104-50L	BUK104-50L	BUK445-100A	BUK445-100A
BU1508DX	BU1508DX	BUK104-50LP	BUK104-50LP	BUK445-100B	BUK445-100B
BU1706A	BU1706A	BUK104-50S	BUK104-50S	BUK445-200A	BUK445-200A
BU1708AX	BU1708AX	BUK104-50SP	BUK104-50SP	BUK445-200B	BUK445-200B
BU2506DF	BU2506DF	BUK105-50L	BUK105-50L	BUK445-400B	BUK445-400B
BU2506DX	BU2506DX	BUK105-50LP	BUK105-50LP	BUK445-500B	BUK445-500B
BU2508A	BU2508A	BUK105-50S	BUK105-50S	BUK445-50A	BUK445-50A
BU2508AF	BU2508AF	BUK105-50SP	BUK105-50SP	BUK445-50B	BUK445-50B
BU2508AX	BU2508AX	BUK106-50L	BUK106-50L	BUK445-600B	BUK445-600B
BU2508D	BU2508D	BUK106-50LP	BUK106-50LP	BUK445-60A	BUK445-60A
BU2508DF	BU2508DF	BUK106-50S	BUK106-50S	BUK445-60B	BUK445-60B
BU2508DX	BU2508DX	BUK106-50SP	BUK106-50SP	BUK446-1000B	BUK446-1000B
BU2520A	BU2520A	BUK416-100AE	BUK416-100AE	BUK446-800A	BUK446-800A
BU2520AF	BU2520AF	BUK416-100BE	BUK416-100BE	BUK446-800B	BUK446-800B
BU2520AX	BU2520AX	BUK416-200AE	BUK416-200AE	BUK451-100A	BUK451-100A
BU2520D	BU2520D	BUK416-200BE	BUK416-200BE	BUK451-100B	BUK451-100B
BU2520DF	BU2520DF	BUK417-500AE	BUK417-500AE	BUK451-50A	BUK451-50A
BU2520DX	BU2520DX	BUK417-500BE	BUK417-500BE	BUK452-100A	BUK452-100A
BU2522AF	BU2522AF	BUK436-1000B	BUK436-1000B	BUK452-100B	BUK452-100B
BU2522AX	BU2522AX	BUK436-100A	BUK436-100A	BUK452-60A	BUK452-60A
BU2525A	BU2525A	BUK436-100B	BUK436-100B	BUK452-60B	BUK452-60B
BU2525AF	BU2525AF	BUK436-200A	BUK436-200A	BUK453-100A	BUK453-100A
BU2525AX	BU2525AX	BUK436-200B	BUK436-200B	BUK453-100B	BUK453-100B
BU2527AF	BU2527AF	BUK436-50A	BUK436-50A	BUK453-500B	BUK453-500B
BU2527AX	BU2527AX	BUK436-50B	BUK436-50B	BUK453-50A	BUK453-50A
BU406	BU406	BUK436-60A	BUK436-60A	BUK453-50B	BUK453-50B
BU407	BU407	BUK436-60B	BUK436-60B	BUK453-60A	BUK453-60A
BU426	BUW11	BUK436-800A	BUK436-800A	BUK453-60B	BUK453-60B
BU426A	BUW11A	BUK436-800B	BUK436-800B	BUK454-200A	BUK454-200A
BU505	BU505	BUK437-400B	BUK437-400B	BUK454-200B	BUK454-200B
BU505D	BU505D	BUK437-500B	BUK437-500B	BUK454-400B	BUK454-400B
BU505DF	BU505DF	BUK437-600B	BUK437-600B	BUK454-500B	BUK454-500B
BU505F	BU505F	BUK438-500B	BUK438-500B	BUK454-600B	BUK454-600B
BU506	BU506	BUK438-800A	BUK438-800A	BUK454-800A	BUK454-800A

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BUK454-800B	BUK454-800B	BUK545-200B	BUK545-200B	BUK856-400IZ	BUK856-400IZ
BUK455-100A	BUK455-100A	BUK545-60A	BUK545-60A	BUK856-450IX	BUK856-450IX
BUK455-100B	BUK455-100B	BUK545-60B	BUK545-60B	BUK856-800A	BUK856-800A
BUK455-200A	BUK455-200A	BUK551-100A	BUK551-100A	BUK-105-50L	BUK105-50L
BUK455-200B	BUK455-200B	BUK551-100B	BUK551-100B	BUT11	BUT11
BUK455-400B	BUK455-400B	BUK551-50A	BUK551-50A	BUT11A	BUT11A
BUK455-500B	BUK455-500B	BUK551-50B	BUK551-50B	BUT11AF	BUT11AF
BUK455-50A	BUK455-50A	BUK552-100A	BUK552-100A	BUT11AX	BUT11AX
BUK455-50A/CRL06	BUK455-50A/CRL06	BUK552-100B	BUK552-100B	BUT11F	BUT11F
BUK455-50B	BUK455-50B	BUK552-50A	BUK552-50A	BUT12	BUT12
BUK455-600B	BUK455-600B	BUK552-50B	BUK552-50B	BUT12A	BUT12A
BUK455-60A	BUK455-60A	BUK552-60A	BUK552-60A	BUT12AF	BUT12AF
BUK455-60B	BUK455-60B	BUK552-60B	BUK552-60B	BUT12F	BUT12F
BUK456-1000B	BUK456-1000B	BUK553-100A	BUK553-100A	BUT18	BUT18
BUK456-100A	BUK456-100A	BUK553-100B	BUK553-100B	BUT18A	BUT18A
BUK456-100A/CRL06	BUK456-100A/CRL06	BUK553-120A	BUK553-120A	BUT18AF	BUT18AF
BUK456-100B	BUK456-100B	BUK553-50A	BUK553-50A	BUT18F	BUT18F
BUK456-200A	BUK456-200A	BUK553-50B	BUK553-50B	BUT211	BUT211
BUK456-200B	BUK456-200B	BUK553-60A	BUK553-60A	BUV26	BUV26
BUK456-50A	BUK456-50A	BUK553-60B	BUK553-60B	BUV26A	BUV26A
BUK456-50B	BUK456-50B	BUK553-60B/CRL06	BUK553-60B/CRL06	BUV27	BUV27
BUK456-60A	BUK456-60A	BUK554-200A	BUK554-200A	BUV27A	BUV27A
BUK456-60B	BUK456-60B	BUK554-200B	BUK554-200B	BUV28	BUV28
BUK456-60H	BUK456-60H	BUK555-100A	BUK555-100A	BUV28A	BUV28A
BUK456-800A	BUK456-800A	BUK555-100AP	BUK555-100AP	BUV298AV	BUV298AV
BUK456-800B	BUK456-800B	BUK555-100B	BUK555-100B	BUV36	BUX84
BUK457-400A	BUK457-400A	BUK555-200A	BUK555-200A	BUV46	BUT11
BUK457-400B	BUK457-400B	BUK555-200A/L06	BUK555-200A/L06	BUV46A	BUT11A
BUK457-500A	BUK457-500A	BUK555-200B	BUK555-200B	BUV47	BUW12
BUK457-500B	BUK457-500B	BUK555-50A	BUK555-50A	BUV47A	BUW12A
BUK457-600A	BUK457-600A	BUK555-50B	BUK555-50B	BUV48	BUW13
BUK457-600B	BUK457-600B	BUK555-60A	BUK555-60A	BUV48A	BUW13A
BUK481-100A	BUK481-100A	BUK555-60AP	BUK555-60AP	BUV54V-150	BYV54V-150
BUK481-60A	BUK481-60A	BUK555-60AP/CRL06	BUK555-60AP/CRL06	BUV89	BUV89
BUK482-100A	BUK482-100A	BUK555-60B	BUK555-60B	BUV90	BUV90
BUK482-60A	BUK482-60A	BUK556-60A	BUK556-60A	BUV90F	BUV90F
BUK483-60A	BUK483-60A	BUK556-60H	BUK556-60H	BUV98V	BUV98V
BUK541-100A	BUK541-100A	BUK581-100A	BUK581-100A	BUW11	BUW11
BUK541-100B	BUK541-100B	BUK581-60A	BUK581-60A	BUW11A	BUW11A
BUK541-50A	BUK541-50A	BUK582-100A	BUK582-100A	BUW11AF	BUW11AF
BUK541-50B	BUK541-50B	BUK582-60A	BUK582-60A	BUW12	BUW12
BUK542-100A	BUK542-100A	BUK583-60A	BUK583-60A	BUW12A	BUW12A
BUK542-100B	BUK542-100B	BUK617-500AE	BUK617-500AE	BUW12F	BUW12F
BUK542-50A	BUK542-50A	BUK617-500BE	BUK617-500BE	BUW13	BUW13
BUK542-50B	BUK542-50B	BUK637-400B	BUK637-400B	BUW13A	BUW13A
BUK542-60A	BUK542-60A	BUK637-500A	BUK637-500A	BUW13AF	BUW13AF
BUK542-60B	BUK542-60B	BUK637-500B	BUK637-500B	BUW13F	BUW13F
BUK543-100A	BUK543-100A	BUK638-500B	BUK638-500B	BUW14	BUW14
BUK543-100B	BUK543-100B	BUK655-500A	BUK655-500A	BUW84	BUW84
BUK543-50A	BUK543-50A	BUK655-500B	BUK655-500B	BUW85	BUW85
BUK543-50B	BUK543-50B	BUK657-400B	BUK657-400B	BUX100	BUX100
BUK543-60A	BUK543-60A	BUK657-500A	BUK657-500A	BUX84	BUX84
BUK543-60B	BUK543-60B	BUK657-500B	BUK657-500B	BUX84F	BUX84F
BUK545-100A	BUK545-100A	BUK657-600B	BUK657-600B	BUX85	BUX85
BUK545-100B	BUK545-100B	BUK854-500IS	BUK854-500IS	BUX85F	BUX85F
BUK545-200A	BUK545-200A	BUK854-800A	BUK854-800A	BUX86	BUX86

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BUX87	BUX87	BUZ72	BUK453-100B	BY229F-600	BY229F-600
BUX99	BUX99	BUZ72A	BUK453-100B	BY229F-800	BY229F-800
BUZ10	BUK453-60A	BUZ72AF	BUK443-100B	BY229-200	BY229-200
BUZ10A	BUK453-60A	BUZ72AL	BUK553-100B	BY229-400	BY229-400
BUZ10L	BUK553-60A	BUZ72F	BUK443-100B	BY229-600	BY229-600
BUZ11	BUK455-60A	BUZ72L	BUK553-100A	BY229-800	BY229-800
BUZ11A	BUK455-60B	BUZ73	BUK454-200A	BY233-600	BYR29-600
BUZ11AF	BUK455-60B	BUZ73A	BUK454-200B	BY239-200	BY249-300
BUZ11AL	BUK555-60B	BUZ73AF	BUK444-200B	BY239-400	BY249-600
BUZ11F	BUK445-60A	BUZ73F	BUK444-200A	BY239-600	BY249-600
BUZ11L	BUK555-60A	BUZ74	BUK454-500B	BY239-800	BY249-600
BUZ20	BUK453-100B	BUZ74A	BUK454-500B	BY249-300	BY249-300
BUZ21	BUK455-100A	BUZ76A	BUK454-400B	BY249-300R	BY249-300R
BUZ21A	BUK455-100B	BUZ77	BUK454-600B	BY249-600	BY249-600
BUZ22	BUK456-100A	BUZ77A	BUK454-600B	BY249-600R	BY249-600R
BUZ22A	BUK456-100A	BUZ78	BUK454-800B	BY249-800	BY249-800
BUZ307	BUK436-800A	BUZ80	BUK454-800B	BY249-800R	BY249-800R
BUZ308	BUK436-800A	BUZ80A	BUK456-800A	BY251	BYM56A
BUZ309	BUK436-1000A	BUZ90	BUK455-600B	BY252	BYM56B
BUZ30B	BUK436-800B	BUZ90A	BUK455-600B	BY253	BYM56C
BUZ31	BUK456-200B	BY126	BYD13K	BY254	BYM56D
BUZ310	BUK436-1000A	BY126MGP	1N5062	BY255	BY228
BUZ31A	BUK455-200B	BY127MGP	BY527	BY268	BY448
BUZ32	BUK455-200A	BY12P-600	BYR29-600	BY268	BYV36G
BUZ326	BUK437-400B	BY133	BY448	BY269	BYD43-16
BUZ331	BUK437-500B	BY134	1N5061	BY296	BYV95A
BUZ34	BUK436-200B	BY134	BYD13J	BY296	BYW95A
BUZ345	BUK436-100A	BY134GP	1N5062	BY296P	BYW95A
BUZ347	BUK436-60B	BY135	1N5059	BY297	BYV95A
BUZ348	BUK436-60B	BY135	BYD13D	BY297	BYW95A
BUZ349	BUK436-100A	BY135GP	1N5059	BY297P	BYW95A
BUZ349A	BUK436-100B	BY187	BY708	BY298	BYV95B
BUZ350	BUK436-200A	BY203/12S	BY458	BY298	BYW95B
BUZ351	BUK437-400B	BY203/12S	BYD43-16	BY298P	BYW95B
BUZ354	BUK437-500B	BY203/16S	BY448	BY299	BYV95C
BUZ355	BUK438-800A	BY203/16S	BYD43-16	BY299	BYW96D
BUZ356	BUK438-800B	BY203/20S	BYD43-20	BY299P	BYW96D
BUZ376	BUK638-800A	BY206	BYD31G	BY299S	BYW96E
BUZ377	BUK638-800B	BY206GP	BYD31G	BY329-1000	BY329-1000
BUZ383	BUK637-400B	BY207GP	BYD31J	BY329-1200	BY329-1200
BUZ384	BUK637-500A	BY208-1000	BYD33M	BY329-800	BY329-800
BUZ385	BUK637-500B	BY208-600	BYD33J	BY359F-1500	BY359F-1500
BUZ40	BUK454-500B	BY208-800	BYD33K	BY359X-1500	BY359X-1500
BUZ41A	BUK455-500B	BY218-100	BYW95A	BY359-1500	BY359-1500
BUZ42	BUK455-500B	BY218-200	BYW95A	BY360-06	BYW95C
BUZ50	BUK456-1000A	BY218-400	BYW95B	BY396	BYW95A
BUZ50A	BUK456-1000B	BY218-600	BYW95C	BY396B	BYW95A
BUZ50B	BUK456-1000B	BY226MGP	1N5062	BY396P	BYW95A
BUZ50C	BUK456-1000B	BY227MGP	BY527	BY397	BYW95A
BUZ60	BUK455-400B	BY228	BY228	BY397P	BYW95A
BUZ60B	BUK454-400B	BY228/13	BY438	BY398	BYW95B
BUZ71	BUK453-60B	BY228/15	BY228	BY398P	BYW95B
BUZ71A	BUK453-60B	BY228/15	BY438	BY399	BYW96D
BUZ71AL	BUK552-60A	BY229F-1000	BY229F-1000	BY399P	BYW96D
BUZ71F	BUK443-60B	BY229F-200	BY229F-200	BY399S	BYW96E
BUZ71L	BUK553-60A	BY229F-400	BY229F-400	BY410	BYD73B

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BY448	BY448	BYQ28E-50	PPBYQ28E-50	BYT52B	BYD33D
BY458	BY458	BYQ28F-100	BYQ28F-100	BYT52D	BYD33D
BY527	BY527	BYQ28F-200	BYQ28F-200	BYT52G	BYD33G
BYD43-20	BYD43-20	BYQ28-150	BYQ28-150	BYT52J	BYD33J
BYD47-20	BYD47-20	BYR29F-600	BYR29F-600	BYT52K	BYD33K
BYG10D	BYG50D	BYR29-600	BYR29-600	BYT52M	BYD33M
BYG10G	BYG50G	BYS10-25	BYG90-20	BYT53A	BYD73A
BYG10J	BYG50J	BYS10-35	BYG90-30	BYT53B	BYD73B
BYG10K	BYG50K	BYS10-45	BYG90-40	BYT53C	BYD73C
BYG10M	BYG50M	BYS11-90	BYG90-90	BYT53D	BYD73D
BYG22A	BYG80A	BYS12-90	BYG90-90	BYT53F	BYD73F
BYG22B	BYG80B	BYT01-200	BYD73D	BYT53G	BYD73G
BYG22D	BYG80D	BYT01-300	BYD73F	BYT54A	BYV36A
BYM05-100	PRLL4002	BYT01-300	BYV26B	BYT54B	BYV36A
BYM05-200	BYD17D	BYT01-400	BYD73G	BYT54D	BYV36A
BYM05-400	BYD17G	BYT01-400	BYV26B	BYT54G	BYV36B
BYM05-50	PRLL4001	BYT03-200	BYM26A	BYT54J	BYV36C
BYM05-600	BYD17J	BYT03-200	BYV28-200	BYT54K	BYV26D
BYM06-100	BYD37D	BYT03-300	BYM26B	BYT54K	BYV36D
BYM06-200	BYD37D	BYT03-300	BYV28-300	BYT54M	BYV26E
BYM06-400	BYD37G	BYT03-400	BYM26B	BYT54M	BYV36E
BYM06-50	BYD37D	BYT03-400	BYV28-400	BYT56A	BYM36A
BYM06-600	BYD37J	BYT08P-300	BYV29-300	BYT56B	BYM36A
BYM07-100	BYD77B	BYT08P-400	BYV29-400	BYT56D	BYM36A
BYM07-150	BYD77C	BYT11-1000	BYV26E	BYT56G	BYM36B
BYM07-200	BYD77D	BYT11-1000	BYV36E	BYT56J	BYM36C
BYM07-300	BYD77F	BYT11-600	BYV36C	BYT56K	BYM26D
BYM07-400	BYD77G	BYT11-800	BYV26D	BYT56K	BYM36D
BYM07-50	BYD77A	BYT11-800	BYV36D	BYT56M	BYM26E
BYM10-100	PRLL4002	BYT12-200	BYV79E-200	BYT56M	BYM36E
BYM10-1000	BYD17M	BYT13-1000	BYM36E	BYT77	BYW96D
BYM10-200	BYD17D	BYT13-600	BYM36C	BYT78	BYW96E
BYM10-400	BYD17G	BYT13-800	BYM36D	BYT79-300	BYT79-300
BYM10-50	PRLL4001	BYT16P-200	BYV32E-200	BYT79-400	BYT79-400
BYM10-600	BYD17J	BYT16P-300	BYV34-300	BYT79-500	BYT79-500
BYM10-800	BYD17K	BYT230P1V-200	BYT230P1V-200	BYV10-20	BYV10-20
BYM11-100	BYD37D	BYT230P1V-300	BYT230P1V-300	BYV10-20A	1N5817
BYM11-1000	BYD37M	BYT230P1V-400	BYT230P1V-400	BYV10-30	BYV10-30
BYM11-200	BYD37D	BYT230P1V-600	BYT230P1V-600	BYV10-40	BYV10-40
BYM11-400	BYD37G	BYT230P1V-800	BYT230P1V-800	BYV118F-35	BYV118F-35
BYM11-50	BYD37D	BYT230PIV-200	BYT230PIV-200	BYV118-35	BYV118-35
BYM11-600	BYD37J	BYT230PIV-300	BYT230PIV-300	BYV118-40	BYV118-40
BYM11-800	BYD37K	BYT230PIV-400	BYT230PIV-400	BYV118-45	BYV118-45
BYM12-100	BYD77B	BYT230PIV-600	BYT230PIV-600	BYV12	BYV95A
BYM12-150	BYD77C	BYT230PIV-800	BYT230PIV-800	BYV13	BYV95B
BYM12-200	BYD77D	BYT28-300	BYT28-300	BYV133F-35	BYV133F-35
BYM12-300	BYD77F	BYT28-400	BYT28-400	BYV133F-40	BYV133F-40
BYM12-400	BYD77G	BYT28-500	BYT28-500	BYV133F-45	BYV133F-45
BYM12-50	BYD77A	BYT51A	BYD13D	BYV133-35	BYV133-35
BYM13-20	PRLL5817	BYT51B	BYD13D	BYV133-40	BYV133-40
BYM13-30	PRLL5818	BYT51D	BYD13D	BYV133-45	BYV133-45
BYM13-40	PRLL5819	BYT51G	BYD13G	BYV14	BYV95C
BYQ27-150	BYQ27-150	BYT51J	BYD13J	BYV143F-35	BYV143F-35
BYQ28E-100	BYQ28E-100	BYT51K	BYD13K	BYV143F-40	BYV143F-40
BYQ28E-150	BYQ28E-150	BYT51M	BYD13M	BYV143F-45	BYV143F-45
BYQ28E-200	BYQ28E-200	BYT52A	BYD33D	BYV143-35	BYV143-35

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BYV143-40	BYV143-40	BYV54V-100	BYV54V-100	BYW54	BYW54
BYV143-45	BYV143-45	BYV54V-200	BYV54V-200	BYW55	BYW55
BYV15	BYV96D	BYV54V-50	BYV54V-50	BYW56	BYW56
BYV16	BYV96E	BYV61	BYV28-50	BYW72	BYW95A
BYV26B	BYV26B	BYV62	BYV28-100	BYW73	BYW95B
BYV26C	BYV26C	BYV63	BYV28-150	BYW74	BYW95B
BYV26D	BYV26D	BYV72E-50	BYV72E-50	BYW75	BYW95C
BYV26E	BYV26E	BYV72F-100	BYV72F-100	BYW76	BYW95C
BYV27-100	BYV27-100	BYV72F-150	BYV72F-150	BYW81P-100	BYV79E-100
BYV27-150	BYV27-150	BYV72F-200	BYV72F-200	BYW82	BYM56A
BYV27-200	BYV27-200	BYV72-150	BYV72-150	BYW83	BYM56B
BYV27-50	BYV27-50	BYV73-30	PBYR3035PT	BYW84	BYM56C
BYV27/100	BYV27-100	BYV73-35	PBYR3035PT	BYW85	BYM56D
BYV27/150	BYV27-150	BYV73-40	PBYR3040PT	BYW86	BYM56E
BYV27/200	BYV27-200	BYV73-45	PBYR3045PT	BYW98-100	BYV28-100
BYV27/50	BYV27-50	BYV74F-500	BYV74F-500	BYW98-150	BYV28-150
BYV28-100	BYV28-100	BYV74-300	BYV74-300	BYW98-200	BYV28-200
BYV28-150	BYV28-150	BYV79E-50	BYV79E-50	BYW98-50	BYV28-50
BYV28-200	BYV28-200	BYV79-100	BYV79-100	BYW99P-100	BYV72E-50
BYV28-50	BYV28-50	BYV79-150	BYV79-150	BYX10GP	BYX10G
BYV28/100	BYV28-100	BYV79-200	BYV79-200	BYX55-350P	BYV95B
BYV28/150	BYV28-150	BYW100-100	BYV27-100	BYX55-600P	BYV95C
BYV28/200	BYV28-200	BYW100-150	BYV27-150	BYX82	1N5059
BYV28/50	BYV28-50	BYW100-200	BYV27-200	BYX83	1N5060
BYV29F-300	BYV29F-300	BYW100-50	BYV27-50	BYX84	1N5061
BYV29F-400	BYV29F-400	BYW172D	BYV28-200	BYX85	1N5062
BYV29F-500	BYV29F-500	BYW172F	BYV28-300	BYX86	BYW56
BYV29-300	BYV29-300	BYW172G	BYV28-400	BZT03/Cxxx	BZT03-Cxxx
BYV29-400	BYV29-400	BYW27-100	1N5059	BZT03/Dxxx	BZT03-Cxxx
BYV29-500	BYV29-500	BYW27-1000	BYW56	BZV47-Cxxx	BZD23-Cxxx
BYV32E-100	BYV32E-100	BYW27-1000GP	BYW56	BZV55C10	BZV55C10
BYV32E-150	BYV32E-150	BYW27-100GP	1N5059	BZV55C11	BZV55C11
BYV32E-200	BYV32E-200	BYW27-200	1N5059	BZV55C12	BZV55C12
BYV32E-50	BYV32E-50	BYW27-200GP	1N5059	BZV55C13	BZV55C13
BYV32-100	BYV32-100	BYW27-400	1N5060	BZV55C15	BZV55C15
BYV32-150	BYV32-150	BYW27-400GP	1N5060	BZV55C16	BZV55C16
BYV32-200	BYV32-200	BYW27-50	1N5059	BZV55C18	BZV55C18
BYV32-50	BYV32-50	BYW27-50GP	1N5059	BZV55C20	BZV55C20
BYV34-300	BYV34-300	BYW27-600	1N5061	BZV55C22	BZV55C22
BYV37	BYV96D	BYW27-600GP	1N5061	BZV55C24	BZV55C24
BYV38	BYV96E	BYW27-800	1N5062	BZV55C27	BZV55C27
BYV40	BYV40	BYW27-800GP	1N5062	BZV55C2V4	BZV55C2V4
BYV40-100	BYV40-100	BYW29E-100	BYW29E-100	BZV55C2V7	BZV55C2V7
BYV40-150	BYV40-150	BYW29E-150	BYW29E-150	BZV55C30	BZV55C30
BYV40-200	BYV40-200	BYW29E-200	BYW29E-200	BZV55C33	BZV55C33
BYV42E-100	BYV42E-100	BYW29F-100	BYW29F-100	BZV55C36	BZV55C36
BYV42E-150	BYV42E-150	BYW29F-150	BYW29F-150	BZV55C39	BZV55C39
BYV42E-200	BYV42E-200	BYW29F-200	BYW29F-200	BZV55C3V0	BZV55C3V0
BYV42E-50	BYV42E-50	BYW29F-50	BYW29F-50	BZV55C3V3	BZV55C3V3
BYV42-100	BYV42-100	BYW32	BYV95A	BZV55C3V6	BZV55C3V6
BYV42-150	BYV42-150	BYW33	BYV95B	BZV55C3V9	BZV55C3V9
BYV42-200	BYV42-200	BYW34	BYV95B	BZV55C43	BZV55C43
BYV42-50	BYV42-50	BYW35	BYV95C	BZV55C47	BZV55C47
BYV44-300	BYV44-300	BYW36	BYV95C	BZV55C4V7	BZV55C4V7
BYV44-400	BYV44-400	BYW52	1N5059	BZV55C51	BZV55C51
BYV44-500	BYV44-500	BYW53	1N5060	BZV55C56	BZV55C56

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
BZV55C5V1	BZV55C5V1	BZV90C2V4	BZV90C2V4	BZX79C4V7	BZX79C4V7
BZV55C5V6	BZV55C5V6	BZV90C2V7	BZV90C2V7	BZX79C51	BZX79C51
BZV55C62	BZV55C62	BZV90C30	BZV90C30	BZX79C56	BZX79C56
BZV55C68	BZV55C68	BZV90C33	BZV90C33	BZX79C5V1	BZX79C5V1
BZV55C6V8	BZV55C6V8	BZV90C36	BZV90C36	BZX79C5V6	BZX79C5V6
BZV55C75	BZV55C75	BZV90C39	BZV90C39	BZX79C62	BZX79C62
BZV55C7V5	BZV55C7V5	BZV90C3V0	BZV90C3V0	BZX79C68	BZX79C68
BZV55C8V2	BZV55C8V2	BZV90C3V3	BZV90C3V3	BZX79C6V2	BZX79C6V2
BZV55C9V1	BZV55C9V1	BZV90C3V6	BZV90C3V6	BZX79C6V8	BZX79C6V8
BZV58Cxxx	BZW03-Cxxx	BZV90C3V9	BZV90C3V9	BZX79C75	BZX79C75
BZV80	BZV80	BZV90C43	BZV90C43	BZX79C7V5	BZX79C7V5
BZV81	BZV81	BZV90C47	BZV90C47	BZX79C8V2	BZX79C8V2
BZV85C10	BZV85C10	BZV90C4V3	BZV90C4V3	BZX79C9V1	BZX79C9V1
BZV85C11	BZV85C11	BZV90C4V7	BZV90C4V7	BZX84C10	BZX84C10
BZV85C12	BZV85C12	BZV90C51	BZV90C51	BZX84C11	BZX84C11
BZV85C13	BZV85C13	BZV90C56	BZV90C56	BZX84C12	BZX84C12
BZV85C15	BZV85C15	BZV90C5V1	BZV90C5V1	BZX84C13	BZX84C13
BZV85C16	BZV85C16	BZV90C5V6	BZV90C5V6	BZX84C15	BZX84C15
BZV85C18	BZV85C18	BZV90C62	BZV90C62	BZX84C16	BZX84C16
BZV85C20	BZV85C20	BZV90C68	BZV90C68	BZX84C18	BZX84C18
BZV85C22	BZV85C22	BZV90C6V2	BZV90C6V2	BZX84C20	BZX84C20
BZV85C24	BZV85C24	BZV90C6V8	BZV90C6V8	BZX84C22	BZX84C22
BZV85C27	BZV85C27	BZV90C75	BZV90C75	BZX84C24	BZX84C24
BZV85C30	BZV85C30	BZV90C7V5	BZV90C7V5	BZX84C27	BZX84C27
BZV85C33	BZV85C33	BZV90C8V2	BZV90C8V2	BZX84C2V4	BZX84C2V4
BZV85C36	BZV85C36	BZV90C9V1	BZV90C9V1	BZX84C2V7	BZX84C2V7
BZV85C39	BZV85C39	BZW03/Cxxx	BZW03-Cxxx	BZX84C30	BZX84C30
BZV85C3V6	BZV85C3V6	BZW03/Dxxx	BZW03-Cxxx	BZX84C33	BZX84C33
BZV85C3V9	BZV85C3V9	BZW04	BZW03	BZX84C36	BZX84C36
BZV85C43	BZV85C43	BZW06	BZW03	BZX84C39	BZX84C39
BZV85C47	BZV85C47	BZW22C39	BZV85C39	BZX84C3V0	BZX84C3V0
BZV85C4V3	BZV85C4V3	BZX55C9V1	BZX79C9V1	BZX84C3V3	BZX84C3V3
BZV85C4V7	BZV85C4V7	BZX79C10	BZX79C10	BZX84C3V6	BZX84C3V6
BZV85C51	BZV85C51	BZX79C11	BZX79C11	BZX84C3V9	BZX84C3V9
BZV85C58	BZV85C58	BZX79C12	BZX79C12	BZX84C43	BZX84C43
BZV85C5V1	BZV85C5V1	BZX79C13	BZX79C13	BZX84C47	BZX84C47
BZV85C5V6	BZV85C5V6	BZX79C15	BZX79C15	BZX84C4V3	BZX84C4V3
BZV85C62	BZV85C62	BZX79C16	BZX79C16	BZX84C4V7	BZX84C4V7
BZV85C68	BZV85C68	BZX79C18	BZX79C18	BZX84C51	BZX84C51
BZV85C6V2	BZV85C6V2	BZX79C20	BZX79C20	BZX84C56	BZX84C56
BZV85C6V8	BZV85C6V8	BZX79C22	BZX79C22	BZX84C5V1	BZX84C5V1
BZV85C75	BZV85C75	BZX79C24	BZX79C24	BZX84C5V6	BZX84C5V6
BZV85C7V5	BZV85C7V5	BZX79C27	BZX79C27	BZX84C62	BZX84C62
BZV85C8V2	BZV85C8V2	BZX79C2V4	BZX79C2V4	BZX84C68	BZX84C68
BZV85C9V1	BZV85C9V1	BZX79C2V7	BZX79C2V7	BZX84C6V2	BZX84C6V2
BZV90C10	BZV90C10	BZX79C30	BZX79C30	BZX84C6V8	BZX84C6V8
BZV90C11	BZV90C11	BZX79C33	BZX79C33	BZX84C75	BZX84C75
BZV90C12	BZV90C12	BZX79C36	BZX79C36	BZX84C7V5	BZX84C7V5
BZV90C13	BZV90C13	BZX79C39	BZX79C39	BZX84C8V2	BZX84C8V2
BZV90C15	BZV90C15	BZX79C3V0	BZX79C3V0	BZX84C9V1	BZX84C9V1
BZV90C16	BZV90C16	BZX79C3V3	BZX79C3V3	BZX85B39	BZV85B39
BZV90C18	BZV90C18	BZX79C3V6	BZX79C3V6	BZX85B4V7	BZV85B4V7
BZV90C20	BZV90C20	BZX79C3V9	BZX79C3V9	BZX85C5V6	BZV85C5V6
BZV90C22	BZV90C22	BZX79C43	BZX79C43	BZY97Cxxx	BZD23Cxxx
BZV90C24	BZV90C24	BZX79C47	BZX79C47	C106A	BT150
BZV90C27	BZV90C27	BZX79C4V3	BZX79C4V3	C106B	BT150

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
C106C	BT150	CA5520	BGD104	CR4427	CR4427
C106D	BT150	CA5600	BGY88	CR5527	CR5527
C106E	BT150	CA5700	BGY89	CR6AM8	BT152-400R
C106F	BT150	CA6101	BGY584A	CR6AM8	BT152-600R
C122A	BT151-500R	CA6170	BGY584	CR8AM12	BT151-650R
C122B	BT151-500R	CA6201	BGY585A	CR8AM8	BT151-500R
C122C	BT151-500R	CA6270	BGY585	CR8PM12	BT151F-650
C122D	BT151-500R	CA6300	BGY586	CR8PM8	BT151F-500
C122E	BT151-500R	CA6301	BGY587	CTB33	PBYR3045PT
C122F	BT151-500R	CA6501	BGD502	CTB33M	PBYR3045PT
C122M	BT151-650R	CA6520	BGD504	CTB34	PBYR3045PT
C122N	BT151-800R	CA990	BGX885N	CTB34M	PBYR3045PT
C122N1	BT151-800R	CA991	BGX885N	CTC14	BLX14
C122S1	BT151-800R	CD1605	BLX94A	CTL21S	BYQ28-100
C126A	BT151-500R	CD1979	BLX94A	CTL22S	BYQ28-200
C126B	BT151-500R	CD2035	BLV30	CTL31S	BYV72-100
C126D	BT151-500R	CD2087	BLV30	D0201YR	BR100/03
C126F	BT151-500R	CD2088	BLW33	D10-28	BLW33
C126M	BT151-650R	CD2089	BLV31	D16P1	MPSA12
C126S	BT151-800R	CD2505	BLV30	D1F10	BYG50D
C127A	BT152-400R	CD2514	BLY88C/01	D1F20	BYG50D
C127B	BT152-400R	CD2810	BLW33	D1F40	BYG50G
C127D	BT152-400R	CD2811	BLW33	D1F60	BYD17J,BYG50J
C127E	BT152-600R	CD2812	BLW33	D1F60	BYG50J
C127F	BT152-400R	CD2813	BLW33	D1FL20	BYD77D,BYG80D
C127M	BT152-600R	CD3025	BLW81	D1FL20	BYG80D
C127S	BT152-800R	CD3400	BLW86	D1FL20U	BYG70D
C25-28	BLV31	CD3401	BLV80/28	D1FL40U	BYG70G
C3-28	BLW89	CD3463	BLW99	D1FS4	BYG90-40
C40-28	BLX94A	CD4024	BLW85	D1NS4	1N5819
C5-12	BLW80	CD5916	BLW89	D1-12E	BLV90
C5-8Z	BLT53	CD5918	BLW33	D1/2-12	BLV10
CA2418	BGY65	CD5919A	BLV31	D20-28	BLV31
CA2422	BGY67	CD5946	BLW81	D29E10	PN2907
CA2800	BGY85	CD6105	BLX94A	D29E2	MPS6534
CA2800H	BGY85	CD6105A	BLX94A	D29E4	2N4402
CA2876	BGY86	CG1	BY448	D29E5	2N4402
CA3302	BGY88	CG125B	BFQ66	D29E6	2N4403
CA4101	BGY84	CG125C	BFQ66	D29E7	2N4403
CA416	BGY65	CG127	BFQ66	D29E9	PN2907
CA418	BGY65	CG127A	BFQ66	D29F2	MPS6534
CA4201	BGY85	CG127B	BFQ66	D29F4	2N5086
CA4411	BGY61	CG2	BY448	D29F5	PN2907
CA4412	BGY61	CG3	BY228	D29F6	PN2907
CA4418	BGY65	CM30-12A	BLU20/12	D32H1	MPSA05
CA4422	BGY67	CM45-12A	BLU45/12	D32H4	MPSA06
CA4424	BGY67A	CM60-12A	BLU60/12	D32J1	MPSA55
CA5101	BGY86	CME50-12	BLU60/12	D32J3	MPSA56
CA5170	BGY84	CR2424	CR2424	D32L1	MPSA13
CA5180	BGY82	CR2425	CR2425	D32L2	MPSA14
CA5201	BGY85A	CR2427	CR2427	D32L4	MPSA13
CA5270	BGY85	CR3424	CR3424	D32L5	MPSA14
CA5280	BGY83	CR3425	CR3425	D32V1	MPSA42
CA5300	BGY86	CR3427	CR3427	D32V2	MPSA42
CA5301	BGY87	CR4424	CR4424	D32V3	MPSA42
CA5501	BGD102	CR4425	CR4425	D33D21	MPSA05

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
D33D22	MPSA05	D84DQ4	BUK454-400B	EC11FS3	BYG80F
D33D23	MPSA05	D84DR1	BUK455-400B	EC11FS4	BYG80G
D33D24	MPSA05	D84DR2	BUK455-400B	EC8FS6	BYG80J
D33D25	MPSA05	D84EK1	BUK455-60A	EG01	BYD71G
D33D26	MPSA05	D84EK2	BUK453-60A	EG01	BYD73G
D33D27	2N4401	D84EL1	BUK455-100A	EG01A	BYV36C
D33D28	MPSA06	D84EL2	BUK455-100A	EG01C	BYV26E
D33D29	MPSA06	D84EM1	BUK455-100A	EG01Y	BYD73B
D33E30	MPSA06	D84EM2	BUK456-200A	EG01Z	BYD71D
D3S3M	1N5821ID	D84EN1	BUK456-200B	EG01Z	BYD73D
D3S4M	1N5822ID	D84EN2	BUK456-200A	EG1	BYD73G
D3-28	BLW89	D84EQ1	BUK457-400B	EG1A	BYV36C
D44C10	BU407	D84EQ2	BUK457-400B	EG1Y	BYD73B
D44C11	BU407	D84ER1	BUK457-500B	EG1Z	BYD73D
D44C12	BU407	D84ER2	BUK457-500B	EGF1A	BYG80A
D44C2	BU407	DA1701	1N4148	EGF1B	BYG80B
D44C3	BU407	DA1702	1N4148	EGF1C	BYG80C
D44C4	BU407	DA1703	1N4148	EGF1D	BYG80D
D44C5	BU407	DA1704	1N4148	EGL34A	BYD77A
D44C6	BU407	DB3	BR100/03	EGL34B	BYD77B
D44C7	BU407	DG1	BY448	EGL34C	BYD77C
D44C8	BU407	DG2	BY448	EGL34D	BYD77D
D44C9	BU407	DG3	BY228	EGL34F	BYD77F
D44H10	BUV26	DM30-12BA	BLV95	EGL34G	BYD77G
D44H11	BUV26	DMB10-12	BLV93	EGL41A	BYD77A
D44H2	BUV26	DMB10-12BA	BLV93	EGL41B	BYD77B
D44H4	BUV26	DMB30-12	BLV95	EGL41C	BYD77C
D44H5	BUV26	DMB30-12BA	BLV95	EGL41D	BYD77D
D44H7	BUV26	DMB30-25	BLV97	EGL41F	BYD77F
D44H8	BUV26	DU1215S	BLF245	EGL41G	BYD77G
D84CK1	BUK453-60B	DU1230S	BLF225	EGP10A	BYD73A
D84CK2	BUK453-100B	DU2805S	BLF242	EGP10B	BYD73B
D84CL1	BUK453-100B	DU2820S	BLF244	EGP10C	BYD73C
D84CL2	BUK453-100B	DU2840S	BLF245	EGP10D	BYD73D
D84CM1	BUK454-200B	DU2860U	BLF246	EGP10F	BYD73F
D84CM2	BUK454-200B	DU2880U	BLF246	EGP10G	BYD73G
D84CN1	BUK454-200B	DU5020S	BLF175	EGP20A	BYV27-50
D84CN2	BUK454-200B	DV1201K	BLF241	EGP20B	BYV27-100
D84CQ1	BUK454-400A	DV1202S	BLF242	EGP20C	BYV27-150
D84CR1	BUK454-500B	DV1205S	BLF244	EGP20D	BYV27-200
D84CR2	BUK454-500B	DV2805S	BLF242	EGP20F	BYV27-300
D84DK1	BUK453-60B	DV2810S	BLF244	EGP20G	BYV27-400
D84DK2	BUK453-100B	DV28120U	BLF147	EGP30A	BYV28-50
D84DK4	BUK453-100B	DV2820S	BLF244	EGP30B	BYV28-100
D84DL1	BUK455-100A	DV2840S	BLF245	EGP30C	BYV28-150
D84DL2	BUK455-100A	DV2860U	BLF246	EGP30D	BYV28-200
D84DL4	BUK453-100B	DV2880U	BLF246	EGP30F	BYV28-300
D84DM1	BUK455-200A	EC10DS1	BYG50D	EGP30G	BYV28-400
D84DM2	BUK454-200A	EC10DS2	BYG50G	EH1	BYD13G
D84DM4	BUK455-200A	EC10DS4	BYG50J	EH1	BYD33G
D84DN1	BUK455-200A	EC10DS6	BYG50J	EH1A	BYD13J
D84DN2	BUK454-200A	EC10QS02L	BYG90-20	EH1A	BYD33J
D84DN4	BUK455-200A	EC10QS03	BYG90-30	EH1Z	BYD13D
D84DQ1	BUK455-400B	EC10QS04	BYG90-40	EH1Z	BYD33D
D84DQ2	BUK455-400B	EC11FS1	BYG80B	EK03	1N5818
D84DQ3	BUK454-400B	EC11FS2	BYG80D	EK04	1N5819

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
EK13	1N5818	ERA22-02	BYD31D	ERC05-06	BYM56C
EK14	1N5819	ERA22-04	BYD31G	ERC05-08	BYM56D
EL1Z	BYD73D	ERA22-06	BYD31J	ERC06-13	BY228
EM01	1N5060	ERA22-08	BYD31K	ERC06-13	BY438
EM01A	1N5061	ERA22-10	BYD31M	ERC06-13	BY458
EM01Z	1N5059	ERA32-01	BYD73B	ERC06-15	BY228
EM1	1N5060	ERA32-02	BYD73D	ERC06-15	BY448
EM1A	1N5061	ERA34-10	BYD31M	ERC18-02	BYV95A
EM1B	1N5062	ERA38-04	BYD71G	ERC18-04	BYV95B
EM1C	BYW56	ERA48-02	BYD33D	ERC25-04	BYV95B
EM1Y	1N5059	ERA48-04	BYD33G	ERC25-06	BYV95C
EM1Z	1N5059	ERA81-004	1N5819	ERC30-01	BYV27-100
EM2	BYM56B	ERA82-004	1N5819	ERC30-02	BYV27-200
EM2A	BYM56C	ERA83-004	1N5819	ERC33-02	BYD73D
EM2B	BYM56D	ERA91-02	BYD71D	ERC35-02	BYM36A
EM513	BYX10G	ERB06-13	BY448	ERC38-04	BYV26B
EN2369A	PN2369A	ERB06-13	BY458	ERC38-05	BYV26C
EN3009	PN2907	ERB06-15	BY448	ERC38-06	BYV26C
EN3013	PN2907	ERB12-01	1N5059	ERC48-02	BYD33D
EN3014	PN2907	ERB12-02	1N5059	ERC48-02	BYV95A
EN3502	PN2907	ERB12-04	1N5060	ERC48-04	BYD33G
EN914	PN2907	ERB12-06	1N5061	ERC48-04	BYV95B
EN916	2N4123	ERB12-10	BYW56	ERC81-004	1N5822ID
EP01C	BYD31M	ERB32-01	BYV27-100	ERC91-02	BYV28-200
EQB01-05	BZD23-C5V1	ERB32-02	BYV27-200	ERD03-02	BYM56A
EQB01-06	BZD23-C6V2	ERB33-02	BYD73D	ERD03-04	BYM56B
EQB01-07	BZD23-C6V8	ERB35-02	BYD73D	ERD07-13	BY438
EQB01-08	BZD23-C8V2	ERB37-08	BYD33K	ERD07-13	BY458
EQB01-09	BZD23-C9V1	ERB37-10	BYD33M	ERD07-15	BY228
EQB01-10	BZD23-C10	ERB38-04	BYD73G	ERD07-15	BY448
EQB01-11	BZD23-C11	ERB38-05	BYV26C	ERD28-04	BYW95B
EQB01-12	BZD23-C12	ERB38-06	BYV26C	ERD28-06	BYW95C
EQB01-13	BZD23-C13	ERB43-02	BYD31D	ERD29-02	BYW95A
EQB01-14	BZD23-C15	ERB43-04	BYD31G	ERD29-04	BYW95B
EQB01-15	BZD23-C15	ERB43-06	BYD31J	ERD29-06	BYW95C
EQB01-16	BZD23-C16	ERB43-08	BYD31K	ERD32-01	BYV28-100
EQB01-17	BZD23-C18	ERB44-02	BYD33D	ERD32-02	BYV28-200
EQB01-18	BZD23-C18	ERB44-04	BYD33G	ERD33-02	BYM36A
EQB01-19	BZD23-C20	ERB44-06	BYD33J	ERD38-04	BYM26B
EQB01-20	BZD23-C20	ERB44-08	BYD33K	ERD38-05	BYM26C
EQB01-21	BZD23-C22	ERB44-10	BYD33M	ERD38-06	BYM26C
EQB01-22	BZD23-C22	ERB91-02	BYD73D	ES01	BYD33G
EQB01-24	BZD23-C24	ERB93-02	BYD73D	ES01A	BYD33J
EQB01-25	BZD23-C24	ERC01-02	BYM56A	ES01F	BY448
EQB01-26	BZD23-C27	ERC01-02F	BYM56A	ES01Z	BYD33D
EQB01-28	BZD23-C27	ERC01-04	BYM56B	ES1	BYD33G
EQB01-30	BZD23-C30	ERC01-04F	BYM56B	ES1A	BYD33J
EQB01-32	BZD23-C33	ERC01-06	BYM56C	ES1A	BYG80A
EQB01-33	BZD23-C33	ERC01-10	BYM56E	ES1B	BYG80B
EQB01-35	BZD23-C36	ERC01-O6	BYM56C	ES1C	BYG80C
ERA15-01	1N4002ID	ERC04-02	BYM56A	ES1D	BYG80D
ERA15-02	1N4003ID	ERC04-02F	BYM56A	ES1F	BY448
ERA15-04	1N4004ID	ERC04-04	BYM56B	ES1Z	BYD33D
ERA15-06	1N4005ID	ERC04-04F	BYM56B	ESAC83-004K	PBYR3045PT
ERA15-08	1N4006ID	ERC04-06	BYM56C	ESJA04-02	BY505
ERA15-10	1N4007ID	ERC04-10	BYM56E	ESJA25-04	BY8404

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number
ESJA25-06	BY8406
ESJA25-08	BY8408
ESJA25-10	BY8410
ESJA25-12	BY8412
ESJA25-16	BY8416
ESJA25-20	BY8420
ESJA31-16	BY8416
ESJA31-20	BY8420
ESJA31-24	BY8424
ESJA34-06	BY8406
ESJA35-10	BY8410
ESJA35-12	BY8412
ESJA37-16	BY8416
ESJA37-20	BY8420
ESJA37-24	BY8424
ESJA52-10	BY8410
ESJA52-12	BY8412
ESJA52-14	BY8414
ESJA53-16	BY8416
ESJA53-18	BY8418
ESJA53-20	BY8420
ESJA54-06	BY8406
ESJA54-08	BY8408
ESJA56-20	BY8420
ESJA56-24	BY8424
ESJA57-04	BY8404
ESJA58-06	BY8406
ESJA58-08	BY8408
ESJA82-10	BY8510
ESJA82-12	BY8512
ESJA82-14	BY8514
ESJA83-16	BY8516
ESJA83-18	BY8518
ESJA83-20	BY8520
ESJA86-24	BY8524
ESJA88-06	BY8506
ESJA88-08	BY8508
ESM269	BFQ63
ESM3045DV	ESM3045DV
ESM4045AV	ESM4045AV
ESM4045DV	ESM4045DV
ESM5045DV	ESM5045DV
EU01	BYD31G
EU01	BYD33G
EU01A	BYD31J
EU01A	BYD33J
EU01Z	BYD31D
EU01Z	BYD33D
EU02	BYD33G
EU02	BYD33J
EU02A	BYD33J
EU02A	BYD33K
EU02Z	BYD33D
EU02Z	BYD33G
EU1	BYD31G
EU1	BYD33G
EU1A	BYD31J
EU1A	BYD33J
EU1Z	BYD31D
EU1Z	BYD33D
EU2	BYD33G
EU2	BYD33J
EU2A	BYD33J
EU2A	BYD33K
EU2YX	BYD33D
EU2YX	BYV36A
EU2Z	BYD33D
EU2Z	BYD33G
FD666	1N914
FDH400	BAV20
FDH444	BAV20
FDH666	1N914
FDH900	1N4150
FDH999	1N914
FDN400	BAV20
FDN444	BAV20
FDN666	1N914
FE16A	BYV32E-50
FE16B	BYV32E-100
FE16C	BYV32E-150
FE16D	BYV32E-200
FE16F	BYV34-300
FE1A	BYD73A
FE1B	BYD73B
FE1C	BYD73C
FE1D	BYD73D
FE2A	BYV27-50
FE2B	BYV27-100
FE2C	BYV27-150
FE2D	BYV27-200
FE3A	BYV28-50
FE3B	BYV28-100
FE3C	BYV28-150
FE3D	BYV28-200
FE8F	BYV29-300
FE8G	BYV29-400
FEP16AT	BYV32E-50
FEP16BT	BYV32E-100
FEP16CT	BYV32E-150
FEP16DT	BYV32E-200
FEP16FT	BYV34-300
FEP30AP	BYV72E-50
FEP30FP	BYV74-300
FEP6AT	BYQ28E-50
FEP6BT	BYQ28E-100
FEP6CT	BYQ28E-150
FEP6DT	BYQ28E-200
FEPF16AT	BYV32F-50
FEPF16BT	BYV32F-100
FEPF16CT	BYV32F-150
FEPF16DT	BYV32F-200
FEPF30GP	BYV74F-400
FES16AT	BYV79E-50
FES8FT	BYV29-300
FES8GT	BYV29-400
FES8HT	BYV29-500
FF05	BYV27-50
FF10	BYV27-100
FF1001	BYD33D
FF1002	BYD33D
FF1003	BYD33D
FF1004	BYD33G
FF1005	BYD33J
FF15	BYV27-150
FF1501	BYV95A
FF1502	BYV95A
FF1504	BYV95B
FF1506	BYV95C
FF1508	BYV96D
FF1510	BYV96E
FJ2301B-24	PTB23001X
FJ2302B-24	PTB23001X
FJ2304B-24	PTB23003X
FJ2306B-24	PTB23005X
FJ9203CC	LBE2003S
FJ9203DD	LCE2003S
FJ9208BB	LTE21009R
FJ9208DD	LCE2009S
FJ9215BB	LTE21015R
FJ9215CC	LWE2015R
FJ9225BB	LTE21025R
FJ9225CC	LWE2025R
FJ9235BB	LTE21025R
FJ9235CC	LWE2025R
FMMD6050	PMBD6050
FMMD914	PMBD914
FMMT2222	PMBT2222
FMMT2222A	PMBT2222A
FMMT2369	PMBT2369
FMMT2907	PMBT2907
FMMT2907A	PMBT2907A
FMMT3904	PMBT3904
FMMT3906	PMBT3906
FMMT4400	PMBT4401
FMMT4401	PMBT4401
FMMT4402	PMBT4403
FMMT4403	PMBT4403
FMMT5087	BCF30
FMMT5088	PMBT5088
FMMT6428	PMBT6428
FMMT6429	PMBT6429
FMMTA05	PMBTA05
FMMTA06	PMBTA06
FMMTA13	PMBTA13
FMMTA14	PMBTA14
FMMTA20	BCW71
FMMTA42	PMBTA42
FMMTA43	PMBTA43

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
FMMTA55	PMBTA55	G2K	1N5062	GI1102	BYV27-100
FMMTA56	PMBTA56	G2M	BYW56	GI1103	BYV27-150
FMMTA70	BCW69	G3A	BYM56A	GI1104	BYV27-200
FMMTA92	PMBTA92	G3B	BYM56A	GI1-1200	BY458
FMMTA93	PMBTA93	G3D	BYM56A	GI1-1400	BY448
FR101	BYV95A	G3G	BYM56B	GI2401	BYV32E-50
FR102	BYV95A	G3J	BYM56C	GI2402	BYV32E-100
FR103	BYV95A	G3K	BYM56D	GI2403	BYV32E-150
FR104	BYV95B	G3M	BYM56E	GI2404	BYV32E-200
FR105	BYV95C	G4A	BYM56A	GI250-1	BYD11M
FR106	BYV96D	G4B	BYM56A	GI250-1	BYD13M
FR107	BYV96E	G4D	BYM56A	GI250-2	BYD43-20
FR151	BYV95A	G4G	BYM56B	GI500	BYM56A
FR152	BYV95A	G4J	BYM56C	GI501	BYM56A
FR153	BYV95A	G4K	BYM56D	GI502	BYM56A
FR154	BYV95B	G4M	BYM56E	GI504	BYM56B
FR155	BYV95C	GET2221	PN2222	GI506	BYM56C
FR156	BYV96D	GET2221A	PN2222A	GI508	BYM56D
FR157	BYV96E	GET2222	PN2222	GI510	BYM56E
FR201	BYW95A	GET2222A	PN2222A	GI810	BYD33D
FR202	BYW95A	GET2369	PN2369	GI811	BYD33D
FR203	BYW95A	GET2907	PN2907	GI812	BYD33D
FR204	BYW95B	GET3638A	MPS6534	GI814	BYD33G
FR205	BYW95C	GET3646	PN2907	GI816	BYD33J
FR206	BYW96D	GET5305	MPSA13	GI817	BYD33K
FR207	BYW96E	GET5306	MPSA14	GI818	BYD33M
FR301	BYW95A	GET5307	MPSA13	GI850	BYW95A
FR302	BYW95A	GET5308	MPSA14	GI851	BYW95A
FR303	BYW95A	GET5308A	MPSA14	GI852	BYW95A
FR304	BYW95B	GET929	MPS6514	GI854	BYW95B
FR305	BYW95C	GET930	MPS6514	GI856	BYW95C
FR306	BYW96D	GE-10	2N4124	GI858	BYW96D
FR307	BYW96E	GE-17	MPSA05	GI910	BYW95A
FRP1605	BYV79-50	GE-20	2N4401	GI911	BYW95A
FRP1605CC	BYV32E-50	GF1A	BYG50D	GI912	BYW95A
FRP1610	BYV79E-100	GF1B	BYG50D	GI914	BYW95B
FRP1610CC	BYV32E-100	GF1D	BYG50D	GI916	BYW95C
FRP1615	BYV79E-150	GF1G	BYG50G	GI917	BYW96D
FRP1615CC	BYV32E-150	GF1J	BYG50J	GL34A	PRLL4001
FRP1620	BYV79E-200	GF1K	BYG50K	GL34B	PRLL4002
FRP1620CC	BYV32E-200	GF1M	BYG50M	GL34D	BYD17D
FT3904	2N3904	GHV-10SL	BY8410	GL34G	BYD17G
FT3906	2N3906	GHV-12SL	BY8412	GL34J	BYD17J
G12404	BYV32E-200	GHV-14SL	BY8414	GL41A	PRLL4001
G1A	1N5059	GHV-16SL	BY8416	GL41B	PRLL4002
G1B	1N5059	GHV-20SL	BY8420	GL41D	BYD17D
G1D	1N5059	GHV-24SL	BY8424	GL41G	BYD17G
G1G	1N5060	GH-1E	BY448	GL41J	BYD17J
G1J	1N5061	GH-1F	BY448	GL41K	BYD17K
G1K	1N5062	GH-3E	BY228	GL41M	BYD17M
G1M	BYW56	GH-3F	BY228	GLL4735	BZD27-C6V2
G2A	1N5059	GI1001	BYD73A	GLL4736	BZD27-C6V8
G2B	1N5059	GI1002	BYD73B	GLL4737	BZD27-C7V5
G2D	1N5059	GI1003	BYD73C	GLL4738	BZD27-C8V2
G2G	1N5060	GI1004	BYD73D	GLL4739	BZD27-C9V1
G2J	1N5061	GI1101	BYV27-50	GLL4740	BZD27-C10

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
GLL4741	BZD27-C11	GP15B	1N5059	GU-3B	BYW96E
GLL4742	BZD27-C12	GP15D	1N5059	GU-3C	BYW96E
GLL4743	BZD27-C13	GP15G	1N5060	GU-3SY	BYW95A
GLL4744	BZD27-C15	GP15J	1N5061	GU-3SZ	BYW95A
GLL4745	BZD27-C16	GP15K	1N5062	GU-3Z	BYW95A
GLL4746	BZD27-C18	GP15M	BYW56	GU-3Z	BYW95B
GLL4747	BZD27-C20	GP20A	BYM56A	H50-28	BLW50F
GLL4748	BZD27-C22	GP20B	BYM56A	HER102	BYD73B
GLL4749	BZD27-C24	GP20D	BYM56A	HER103	BYD73D
GLL4750	BZD27-C27	GP20G	BYM56B	HER104	BYD73F
GLL4751	BZD27-C30	GP20J	BYM56C	HER105	BYD73G
GLL4752	BZD27-C33	GP30A	BYM56A	HER151	BYD73A
GLL4753	BZD27-C36	GP30B	BYM56A	HER152	BYD73B
GLL4754	BZD27-C39	GP30D	BYM56A	HER153	BYD73D
GLL4755	BZD27-C43	GP30G	BYM56B	HER154	BYD73F
GLL4756	BZD27-C47	GP30J	BYM56C	HER155	BYD73G
GLL4757	BZD27-C51	GP30K	BYM56D	HMIL-150-50	BLW95
GLL4758	BZD27-C56	GP30M	BYM56E	HT2	BSR19A
GLL4759	BZD27-C62	GPP10A	BYD13D	HT3	BSR20A
GLL4760	BZD27-C68	GPP10B	BYD13D	HT-5761	BR100/03
GLL4761	BZD27-C75	GPP10D	BYD13D	HVG1	BYD11M
GLL4762	BZD27-C82	GPP10G	BYD13G	HVPR20	BYX90G
GLL4763	BZD27-C91	GPP10J	BYD13J	HVPR30	BYX90G
GM-1	1N5061	GPP10K	BYD13K	HVPR40	BYX90G
GM-104-20	BLV31	GPP10M	BYD13M	HVPR50	BYX90G
GM-104-4	BLW89	GPP15A	1N5059	HVPR60	BYX90G
GM-1A	1N5062	GPP15B	1N5059	HVPR70	BYX90G
GM-1B	BYW56	GPP15D	1N5059	HVPR80	BYX90G
GM-1C	BY458	GPP15G	1N5060	HVR3-7	BYX90G
GM-1Z	1N5060	GPP15J	1N5061	HXTR2101	LAE4001R
GM-3	BYM56C	GPP15K	1N5062	HXTR5101	LAE4002S
GM-3A	BYM56D	GPP15M	BYW56	HXTR5102	LTE4002S
GM-3B	BYM56E	GPP20A	1N5059	HXTR5102	LTE42005S
GM-3C	BY438	GPP20B	1N5059	HXTR5103	LBE2003S
GM-3Y	BYM56A	GPP20D	1N5059	HXTR5104	LBE2009S
GM-3Z	BYM56B	GPP20G	1N5060	IRF510	BUK453-100B
GP02-20	BYD43-20	GPP20J	1N5061	IRF511	BUK453-60B
GP08A	BYD13D	GPP20K	1N5062	IRF512	BUK453-100B
GP08B	BYD13D	GPP20M	BYW56	IRF513	BUK453-60B
GP08D	BYD13D	GPP30A	BYM56A	IRF520	BUK452-100B
GP08G	BYD13G	GPP30B	BYM56A	IRF521	BUK453-60B
GP08J	BYD13J	GPP30D	BYM56A	IRF522	BUK452-100B
GP10A	BYD13D	GPP30G	BYM56B	IRF523	BUK453-60B
GP10B	BYD13D	GPP30J	BYM56C	IRF530	BUK453-100A
GP10D	BYD13D	GPP30K	BYM56D	IRF531	BUK452-60B
GP10G	BYD13G	GPP30M	BYM56E	IRF531R	BUK452-60B
GP10J	BYD13J	GU-1	BYV95B	IRF532	BUK452-100A
GP10K	BYD13K	GU-1	BYV95C	IRF533	BUK453-100B
GP10M	BYD13M	GU-1A	BYV96D	IRF540	BUK455-100A
GP10N	BY458	GU-1B	BYV96E	IRF541	BUK455-100A
GP10Q	BY458	GU-1C	BYV96E	IRF542	BUK455-100B
GP10T	BY448	GU-1Z	BYV95A	IRF543	BUK455-100B
GP10V	BY448	GU-1Z	BYV95B	IRF610	BUK454-200B
GP10W	BY448	GU-3	BYW95B	IRF611	BUK454-200B
GP10Y	BYX10G	GU-3	BYW95C	IRF612	BUK454-200B
GP15A	1N5059	GU-3A	BYW96D	IRF613	BUK454-200B

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
IRF620	BUK454-200B	IRFPG40	BUK438-1000B	JA101O	JA101O
IRF621	BUK454-200B	IRFPG50	BUK438-1000A	JA101P	JA101P
IRF622	BUK454-200B	IRFZ20	BUK453-60B	JA101Q	JA101Q
IRF623	BUK454-200B	IRFZ22	BUK452-60A	JA101R	JA101R
IRF630	BUK454-200A	IRFZ24	BUK453-60B	JC327	JC327
IRF631	BUK454-200A	IRFZ30	BUK455-60B	JC327A	JC327A
IRF632	BUK454-200B	IRFZ32	BUK455-60B	JC327-16	JC327-16
IRF633	BUK454-200B	IRFZ40	BUK456-60A	JC327-25	JC327-25
IRF640	BUK456-200A	IRFZ42	BUK455-60A	JC327-40	JC327-40
IRF641	BUK456-200A	IRFZ44	BUK456-60A	JC328	JC328
IRF642	BUK456-200B	IRL530	BUK553-100B	JC328-16	JC328-16
IRF643	BUK456-200B	IRL540	BUK555-100B	JC328-25	JC328-25
IRF710	BUK454-400B	IXTP3N100	BUK456-1000B	JC328-40	JC328-40
IRF711	BUK454-400B	IXTP3N100A	BUK456-1000B	JC337	JC337
IRF712	BUK454-400B	IXTP3N80	BUK456-800B	JC500	JC500
IRF713	BUK454-400B	IXTP3N80A	BUK456-800B	JC501	JC501
IRF720	BUK454-400B	IXTP3N90	BUK456-1000B	JC546	JC546
IRF721	BUK454-400B	IXTP3N90A	BUK456-1000B	JC546A	JC546A
IRF722	BUK454-400B	IXTP4N100	BUK456-1000B	JC546B	JC546B
IRF723	BUK454-400B	IXTP4N45	BUK454-500A	JC547	JC547
IRF730	BUK455-400B	IXTP4N45A	BUK455-500B	JC547C	JC547C
IRF731	BUK455-400B	IXTP4N50	BUK454-500A	JC548	JC548
IRF732	BUK454-400A	IXTP4N50A	BUK455-500B	JC548A	JC548A
IRF733	BUK454-400A	IXTP4N80	BUK456-800A	JC548B	JC548B
IRF740	BUK457-400B	IXTP4N80A	BUK456-800A	JC548C	JC548C
IRF741	BUK457-400B	IXTP4N90	BUK456-1000B	JC556	JC556
IRF743	BUK455-400A	J108	J108	JC556A	JC556A
IRF820	BUK454-500B	J109	J109	JC556B	JC556B
IRF821	BUK454-450B	J110	J110	JC557	JC557
IRF823	BUK454-450B	J111	J111	JC557A	JC557A
IRF830	BUK455-500B	J112	J112	JC557B	JC557B
IRF831	BUK455-450B	J113	J113	JC557C	JC557C
IRF832	BUK455-500B	J174	J174	JC558	JC558
IRF833	BUK454-450A	J175	J175	JC558A	JC558A
IRF840	BUK457-500B	J176	J176	JC558B	JC558B
IRF841	BUK457-450B	J177	J177	JC558C	JC558C
IRF842	BUK457-500B	J201	BF410A	JC559	JC559
IRF843	BUK457-450B	J202	BF410B	JC559A	JC559A
IRFBC30	BUK455-600A	J203	BF410C	JC559B	JC559B
IRFBC32	BUK454-600A	J204	BF410D	JC559C	JC559C
IRFBC42	BUK455-600A	J270	J177	JC560	JC560
IRFP040	BUK436-60A	J2G	1N5059	JC560A	JC560A
IRFP042	BUK436-60B	J2G101	1N5059	JC560B	JC560B
IRFP140	BUK436-100B	J308	J308	JC560C	JC560C
IRFP150	BUK436-100A	J309	J309	JO2000	BLX94A
IRFP152	BUK436-100B	J310	J310	JO2005	BLX94A
IRFP240	BUK436-200A	J4G	1N5060	JO3020	BLU20/12
IRFP242	BUK436-200B	J5G	1N5059	JO3025	BLU20/12
IRFP340	BUK437-400B	J6G	1N5061	JO3028	BLU20/12
IRFP352	BUK437-400A	J8G	1N5062	JO3030	BLU45/12
IRFP440	BUK437-500B	JA100	JA100	JO3035	BLU45/12
IRFP441	BUK437-500B	JA100O	JA100O	JO3037	BLU45/12
IRFPC40	BUK437-600B	JA100P	JA100P	JO3040	BLU45/12
IRFPE40	BUK438-800B	JA100Q	JA100Q	JO3045	BLU45/12
IRFPE42	BUK438-800B	JA100R	JA100R	JO3050	BLU60/12
IRFPE50	BUK438-800A	JA101	JA101	JO3055	BLU60/12

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
JO3060	BLU60/12	LT3005	BFQ34	MA655	BYV74F-300
JO3401	BLV93	LT3005	BFQ34/01	MA749	BYV118F-40
JO3403	BLV95	LT3014	BFQ34	MA749A	BYV118F-45
JO3404	BLV95	LT3014	BFQ34/01	MA750	BYV118F-40
JO3502	BLV97	LT3046	BFR95	MA750A	BYV118F-45
JO4045	BLV45/12	LT3047	BFQ22S	MA751	PBYR3040PT
JO4070	BLV75/12	LT3072	BFQ22S	MA751A	PBYR3045PT
JO4075	BLV75/12	LT3203	BFQ34T	MA752	PBYR2040CTF
L2004L6	BT136X-500D	LT3204	BFP964	MA752A	PBYR2045CTF
L2004L8	BT136X-500D	LT3703	BFG90A	MAC08BT1	BT148W-400R
L2006L6	BT137X-500D	LT3704	BFG90A	MAC08DT1	BT148W-400R
L2006L8	BT137X-500D	LT3772	BFQ22S	MAC08MT1	BT148W-600R
L2008L6	BT137X-500D	LT3785	BFP90A	MAC121A-10	BT139-800G
L2008L8	BT137X-500D	LT4239	BFQ163	MAC121A-4	BT139-500G
L4004L6	BT136X-500D	LT4403	BFR96S	MAC121A-6	BT139-500G
L4004L8	BT136X-500D	LT4404	BFG96	MAC121A-8	BT139-600G
L4006L6	BT137X-500D	LT4485	BFR91A	MAC121-10	BT139-800G
L4006L8	BT137X-500D	LT4700	BFQ66	MAC121-4	BT139-500G
L4008L6	BT137X-500D	LT4703	BFR91	MAC121-6	BT139-500G
L4008L8	BT137X-500D	LT4704	BFR91A	MAC121-8	BT139-600G
L6004L6	BT136X-600D	LT4772	BFQ63	MAC137G-500	BT137-500G
L6004L8	BT136X-600D	LT4785	BFP91A	MAC137G-600	BT137-600G
L6006L6	BT137X-600D	LT5817	BFQ254	MAC137G-700	BT137-700G
L6006L8	BT137X-600D	LT5817	BFQ254/I	MAC137G-800	BT137-800G
L6008L6	BT137X-600D	LT5839	BFQ253	MAC137-500	BT137-500
L6008L8	BT137X-600D	LTE1015T	LTE1015T	MAC137-600	BT137-600
LAE4001R	LAE4001R	LTE21009R	LTE21009R	MAC137-700	BT137-700
LAE4002S	LAE4002S	LTE21015R	LTE21015R	MAC137-800	BT137-800
LBE2003S	LBE2003S	LTE21025R	LTE21025R	MAC15A10	BT139-800
LBE2009S	LBE2009S	LTE4002S	LTE4002S	MAC15A10FP	BT139F-800
LCE2003S	LCE2003S	LTE42005S	LTE42005S	MAC15A4	BT139-500
LCE2009S	LCE2009S	LTE42008R	LTE42008R	MAC15A4FP	BT139F-500
LEE1015T	LEE1015T	LTE42012R	LTE42012R	MAC15A6	BT139-500
LH2424	CR2424	LUE2003S	LUE2003S	MAC15A6FP	BT139F-500
LLE16045X	LLE16045X	LUE2009S	LUE2009S	MAC15A8	BT139-600
LLE16120X	LLE16120X	LV1721E50R	LV1721E50R	MAC15A8FP	BT139F-600
LLE16350X	LLE16350X	LV2024E45R	LV2024E45R	MAC15A-10	BT139-800F
LLE18010X	LLE18010X	LV2327E40R	LV2327E40R	MAC15A-4	BT139-500F
LLE18040X	LLE18040X	LV2931E50S	LV2931E50R	MAC15A-5	BT139-500F
LLE18100X	LLE18100X	LVE21050R	LVE21050R	MAC15A-6	BT139-500F
LLE18300X	LLE18300X	LWE2010S	LWE2010S	MAC15A-7	BT139-500F
LM424	CR2424	LWE2015R	LWE2015R	MAC15A-8	BT139-600F
LMIL1	BLW32	LWE2025R	LWE2025R	MAC15A-9	BT139-800F
LT1001A	BFQ163	LXE16350X	LXE16350X	MAC15-10	BT139-800
LT1001A	BFR95	LXE18300X	LXE18300X	MAC15-10	BT139-800F
LT1739	BFQ233	LZ1418E100R	LZ1418E100R	MAC15-10FP	BT139F-800
LT1814	BFQ163	M100A	1N5059	MAC15-4	BT139-500
LT1814	BFQ268	M100B	1N5059	MAC15-4	BT139-500F
LT1814	BFQ268/I	M100D	1N5059	MAC15-4FP	BT139F-500
LT1817	BFQ234	M100G	1N5060	MAC15-5	BT139-500F
LT1817	BFQ234/I	M100J	1N5061	MAC15-6	BT139-500
LT1817	BFQ268	M100K	1N5062	MAC15-6	BT139-500F
LT1839	BFQ163	M100M	BYW56	MAC15-6FP	BT139F-500
LT1839	BFQ233	M20	BYX120G	MAC15-7	BT139-500F
LT2001	BFQ34	M30	BYX120G	MAC15-8	BT139-600
LT2001	BFQ34/01	MA198	BAS31	MAC15-8	BT139-600F

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
MAC15-8FP	BT139F-600	MAC212-8FP	BT138F-600	MAC222A-7	BT137-500
MAC15-9	BT139-800F	MAC213-10	BT139-800H	MAC222A-8	BT137-600
MAC16-10	BT139-800H	MAC213-4	BT139-500H	MAC222A-9	BT137-800
MAC16-4	BT139-500H	MAC213-6	BT139-500H	MAC222-1	BT137-500
MAC16-6	BT139-500H	MAC213-8	BT139-600H	MAC222-10	BT137-800
MAC16-8	BT139-600H	MAC218A10	BT137-800	MAC222-2	BT137-500
MAC210A10	BT138-800	MAC218A10FP	BT137F-800	MAC222-3	BT137-500
MAC210A10FP	BT138F-800	MAC218A4	BT137-500	MAC222-4	BT137-500
MAC210A4	BT138-500	MAC218A4FP	BT137F-500	MAC222-5	BT137-500
MAC210A4FP	BT138F-500	MAC218A6	BT137-500	MAC222-6	BT137-500
MAC210A6	BT138-500	MAC218A6FP	BT137F-500	MAC222-7	BT137-500
MAC210A6FP	BT138F-500	MAC218A8	BT137-600	MAC222-8	BT137-600
MAC210A8	BT138-600	MAC218A8FP	BT137F-600	MAC222-9	BT137-800
MAC210A8FP	BT138F-600	MAC218A-10	BT138-800E	MAC223A10	BTA140-800
MAC210A-10	BT138-800G	MAC218A-4	BT138-500E	MAC223A4	BTA140-500
MAC210A-10FP	BT138F-800F	MAC218A-5	BT138-500E	MAC223A6	BTA140-500
MAC210A-4	BT138-500G	MAC218A-6	BT138-500E	MAC223A8	BTA140-600
MAC210A-5	BT138-500G	MAC218A-7	BT138-500E	MAC223A-10	BTA140-800
MAC210A-6	BT138-500G	MAC218A-8	BT138-600E	MAC223A-3	BTA140-500
MAC210A-7	BT138-500G	MAC218A-9	BT138-800E	MAC223A-4	BTA140-500
MAC210A-8	BT138-600G	MAC218-10	BT137-800	MAC223A-5	BTA140-500
MAC210A-9	BT138-800G	MAC218-10	BT138-800F	MAC223A-6	BTA140-500
MAC210-10	BT138-800	MAC218-10FP	BT137F-800	MAC223A-7	BTA140-500
MAC210-10	BT138-800G	MAC218-4	BT137-500	MAC223A-8	BTA140-600
MAC210-10FP	BT138F-800	MAC218-4	BT138-500F	MAC223A-9	BTA140-800
MAC210-4	BT138-500	MAC218-4FP	BT137F-500	MAC223-10	BTA140-800
MAC210-4	BT138-500G	MAC218-5	BT138-500F	MAC223-3	BTA140-500
MAC210-4FP	BT138F-500	MAC218-6	BT137-500	MAC223-4	BTA140-500
MAC210-5	BT138-500G	MAC218-6	BT138-500F	MAC223-5	BTA140-500
MAC210-6	BT138-500	MAC218-6FP	BT137F-500	MAC223-6	BTA140-500
MAC210-6	BT138-500G	MAC218-7	BT138-500F	MAC223-7	BTA140-500
MAC210-6FP	BT138F-500	MAC218-8	BT137-600	MAC223-8	BTA140-600
MAC210-7	BT138-500G	MAC218-8	BT138-600F	MAC223-9	BTA140-800
MAC210-8	BT138-600	MAC218-8FP	BT137F-600	MAC228A4	BT137-500D
MAC210-8	BT138-600G	MAC218-9	BT138-800F	MAC228A4FP	BT137F-500D
MAC210-8FP	BT138F-600	MAC219-10	BT139-800H	MAC228A6	BT137-500D
MAC210-9	BT138-800G	MAC219-4	BT139-500H	MAC228A6FP	BT137F-500D
MAC212A10	BT138-800	MAC219-6	BT139-500H	MAC228A8	BT137-600D
MAC212A10FP	BT138F-800	MAC219-8	BT139-600H	MAC228A8FP	BT137F-600D
MAC212A4	BT138-500	MAC220-2	BT138-500	MAC228-2	BT137-500D
MAC212A4FP	BT138F-500	MAC220-3	BT138-500	MAC228-3	BT137-500D
MAC212A6	BT138-500	MAC220-5	BT138-500	MAC228-4	BT137-500D
MAC212A6FP	BT138F-500	MAC220-7	BT138-500	MAC228-4FP	BT137F-500D
MAC212A8	BT138-600	MAC220-9	BT138-800	MAC228-5	BT137-500D
MAC212A8FP	BT138F-600	MAC221-2	BT138-500	MAC228-6	BT137-500D
MAC212A-10	BT138-800F	MAC221-3	BT138-500	MAC228-6FP	BT137F-500D
MAC212A-4	BT138-500F	MAC221-5	BT138-500	MAC228-7	BT137-500D
MAC212A-6	BT138-500F	MAC221-7	BT138-500	MAC228-8	BT137-600D
MAC212A-8	BT138-600F	MAC221-9	BT138-800	MAC228-8FP	BT137F-600D
MAC212-10	BT138-800	MAC222A-1	BT137-500	MAC228-A2	BT137-500D
MAC212-10FP	BT138F-800	MAC222A-10	BT137-800	MAC228-A3	BT137-500D
MAC212-4	BT138-500	MAC222A-2	BT137-500	MAC228-A4	BT137-500D
MAC212-4FP	BT138F-500	MAC222A-3	BT137-500	MAC228-A5	BT137-500D
MAC212-6	BT138-500	MAC222A-4	BT137-500	MAC228-A6	BT137-500D
MAC212-6FP	BT138F-500	MAC222A-5	BT137-500	MAC228-A7	BT137-500D
MAC212-8	BT138-600	MAC222A-6	BT137-500	MAC229A-10	BT138-800E

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
MAC229A-4	BT138-500E	MBRF1645	PBYR1645F	MCR221-7	BT152-600R
MAC229A-6	BT138-500E	MBRF2045CT	PBYR2045CTF	MCR221-9	BT152-800R
MAC229A-8	BT138-600E	MBRF2535CT	PBYR2535CTF	MCR68-6	BT152-400R
MAC229-10	BT137-800E	MBRF2545CT	PBYR2545CTF	MFE2000	2N4416
MAC229-10FP	BT137F-800E	MBRF3035PT	PBYR3035PTF	MFE2001	2N4416
MAC229-4	BT137-500E	MBRF3045PT	PBYR3045PTF	MFE2004	2N4093
MAC229-4FP	BT137F-500E	MBRF735	PBYR735F	MFE2005	2N4092
MAC229-6	BT137-500E	MBRF745	PBYR745F	MFE2006	2N4091
MAC229-6FP	BT137F-500E	MBRS120T3	BYG90-20	MHW1134	BGY61
MAC229-8	BT137-600E	MBRS130LT3	BYG90-30	MHW1184	BGY65
MAC229-8FP	BT137F-600E	MBRS140T3	BYG90-40	MHW1224	BGY67
MAC310A-4	BT138-500E	MC5384	BGY84A	MHW1244	BGY67A
MAC310A-6	BT138-500E	MC5385	BGY85A	MHW5122A	BGY81
MAC310A-8	BT138-600E	MC5386	BGY88	MHW5141A	BGY82
MAC320A10	BTA140-800	MC5387	BGY584A	MHW5142A	BGY83
MAC320A4	BTA140-500	MC5388	BGY585A	MHW5171	BGY84
MAC320A6	BTA140-500	MC5389	BGY588	MHW5172	BGY85
MAC320A8	BTA140-600	MC5813	BGY61	MHW5181	BGY84A
MAC320A-10	BTA140-800	MC5814	BGY86	MHW5182	BGY85A
MAC320A-4	BTA140-500	MC5815	BGY87	MHW5185	BGD102
MAC320A-6	BTA140-500	MC5816	BGY586	MHW5222	BGY86
MAC320A-8	BTA140-600	MC5817	BGY587	MHW5222A	BGY87
MAC320-10	BTA140-800	MC5818	BGY65	MHW5255	BGD106
MAC320-4	BTA140-500	MC5819	BGY584A	MHW5272A	BGY87B
MAC320-6	BTA140-500	MC5820	BGY585A	MHW5342	BGY88
MAC320-8	BTA140-600	MC5821	BGY588	MHW5382A	BGY89
MACH15D	BTA216-600B	MC5822	BGY67	MHW6122	BGY581
MACH15M	BTA216-600B	MC5824	BGY67A	MHW6141	BGY582
MACH15N	BTA216-800B	MC5866	BGY80	MHW6142	BGY583
MBAS16	BAS16	MC5867	BGY81	MHW6171	BGY584
MBAV70	BAV70	MCR08BT1	BT148W-400R	MHW6172	BGY585
MBAV74	BAV74	MCR08DT1	BT148W-400R	MHW6181	BGY584A
MBAV99	BAV99	MCR08MT1	BT148W-600R	MHW6182	BGY585A
MBAW56	BAW56	MCR218-10	BT151-800R	MHW6185	BGD502
MBR1020	PBYR1035	MCR218-10FP	BT151F-800	MHW6222	BGY587
MBR1035	PBYR1035	MCR218-10FP	BT151F-800R	MHW6342	BGY588
MBR1045	PBYR1045	MCR218-2	BT151-500R	MHW802-1	BGY96A
MBR1535CT	PBYR1535CT	MCR218-2FP	BT151F-500	MHW802-2	BGY96B
MBR1545CT	PBYR1545CT	MCR218-2FP	BT151F-500R	MJE15028	BUV27
MBR1635	PBYR1635	MCR218-3	BT151-500R	MJE15030	BUV27A
MBR1645	PBYR1645	MCR218-4	BT151-500R	MJE340	BUX86
MBR2035CT	PBYR2035CT	MCR218-4FP	BT151F-500	MM1505	2N2369A
MBR2045CT	PBYR2045CT	MCR218-4FP	BT151F-500R	MM1557	BLV20
MBR2535CT	PBYR2535CT	MCR218-5	BT151-500R	MM1558	BLY92A
MBR2545CT	PBYR2545CT	MCR218-6	BT151-500R	MM1681	BLY88C/01
MBR3035PT	PBYR3035PT	MCR218-6FP	BT151F-500	MM1748	2N2369A
MBR3045PT	PBYR3045PT	MCR218-6FP	BT151F-500R	MM1748A	2N2369A
MBR320	1N5820ID	MCR218-7	BT151-500R	MM2055-2	2N2907
MBR330	1N5821ID	MCR218-8	BT151-650R	MM2270	2N3019
MBR340	1N5822ID	MCR218-8FP	BT151F-600R	MM2712	2N2907A
MBR735	PBYR735	MCR218-8FP	BT151F-650	MM3005	2N3019
MBR745	PBYR745	MCR218-9	BT151-800R	MM3006	2N3019
MBRF1035	PBYR1035F	MCR220-5	BT151-500R	MM3019	2N3019
MBRF1045	PBYR1045F	MCR220-7	BT151-500R	MM3020	2N3020
MBRF1545CT	PBYR1545CTF	MCR220-9	BT151-800R	MM3053	2N3053
MBRF1635	PBYR1635F	MCR221-5	BT152-400R	MM4005	2N4030

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
MM4006	2N4033	MMBR901	BFR92	MMBTA06	PMBTA06
MM4007	2N4033	MMBR901L	BFR92A	MMBTA13	PMBTA13
MM4009	2N4033	MMBR911	BFR93A	MMBTA14	PMBTA14
MM4030	2N4030	MMBR911L	BFR93A	MMBTA20	BCW71
MM4031	2N4033	MMBR920	BFR53	MMBTA42	PMBTA42
MM4032	2N4032	MMBR920	BFR92	MMBTA43	PMBTA43
MM4033	2N4033	MMBR920L	BFR92A	MMBTA55	PMBTA55
MM4036	2N3053	MMBR930	BFR93	MMBTA56	PMBTA56
MM4037	2N3053	MMBR930L	BFR92A	MMBTA63	PMBTA63
MM4049	BFQ24	MMBR930L	BFR93A	MMBTA64	PMBTA64
MM420	2N3439	MMBR931L	BFT25A	MMBTA92	PMBTA92
MM4208	2N2369A	MMBR941	BFQ67	MMBTA93	PMBTA93
MM4208A	2N2369A	MMBR941L	BFQ67	MMBTH10	BFS17
MM4209	2N2369A	MMBR941L	BFR520	MMBTH10	BFS20
MM421	2N3440	MMBR951	BFQ67	MMBTH10	PMBTH10
MM4257	2N2369A	MMBR951L	BFQ67	MMBTH24	BF747
MM5005	2N4030	MMBR951L	BFR540	MMBTH81	BF660
MM5006	2N4033	MMBT2222	PMBT2222	MMBTH81	PMBTH81
MM8002	BFR95	MMBT2222A	PMBT2222A	MMBV105G	BBY31
MM8003	BFR64	MMBT2369	PMBT2369	MMBV109	BBY40
MM8023	BFR95	MMBT2484	BCF81	MMBV3401	BAT18
MMBD101	BAT17	MMBT2484	BCX70J2	MMBZ5226	PMBZ5226B
MMBD2835	PMBD2835	MMBT2905	BSR15	MMBZ5227	PMBZ5227B
MMBD2836	BAW56	MMBT2905	PMBT2907	MMBZ5228	PMBZ5228B
MMBD2837	PMBD2837	MMBT2905A	BSR16	MMBZ5229	PMBZ5229B
MMBD2838	PMBD2838	MMBT2905A	PMBT2907A	MMBZ5230	PMBZ5230B
MMBD501	BAT54	MMBT2907	BSR15	MMBZ5231	PMBZ5231B
MMBD6050	PMBD6050	MMBT2907	PMBT2907	MMBZ5233	PMBZ5233B
MMBD6100	PMBD6100	MMBT2907A	PMBT2907A	MMBZ5234	PMBZ5234B
MMBD7000	PMBD7000	MMBT3393	BC848A	MMBZ5235	PMBZ5235B
MMBD914	PMBD914	MMBT3638A	BC858	MMBZ5236	PMBZ5236B
MMBF4391	PMBF4391	MMBT3640	BSR12	MMBZ5237	PMBZ5237B
MMBF4392	PMBF4392	MMBT3640	PMBT3640	MMBZ5238	PMBZ5238B
MMBF4393	PMBF4393	MMBT3642	BC847	MMBZ5239	PMBZ5239B
MMBF4416	PMBF4416	MMBT3645	BC856	MMBZ5240	PMBZ5240B
MMBF4860	PMBFJ112	MMBT3904	PMBT3904	MMBZ5241	PMBZ5241B
MMBF5484	BFR31	MMBT3906	PMBT3906	MMBZ5242	PMBZ5242B
MMBFJ113	PMBFJ113	MMBT4123	BSR17	MMBZ5243	PMBZ5243B
MMBFJ174	PMBFJ174	MMBT4124	BSR17A	MMBZ5244	PMBZ5244B
MMBFJ175	PMBFJ175	MMBT4125	BSR18	MMBZ5245	PMBZ5245B
MMBFJ176	PMBFJ176	MMBT4126	BSR18A	MMBZ5246	PMBZ5246B
MMBFJ177	PMBFJ177	MMBT4400	PMBT4401	MMBZ5247	PMBZ5247B
MMBFJ308	PMBFJ308	MMBT4401	PMBT4401	MMBZ5248	PMBZ5248B
MMBFJ309	PMBFJ309	MMBT4402	PMBT4403	MMBZ5249	PMBZ5249B
MMBFJ310	PMBFJ310	MMBT4403	PMBT4403	MMST2222	PMBT2222
MMBFU310	PMBFJ310	MMBT5086	BCF29	MMST2222A	PMBT2222A
MMBPU131	BRY61	MMBT5087	BCF30	MMST2907	PMBT2907
MMBR2060	BFS17A	MMBT5088	PMBT5088	MMST2907A	PMBT2907A
MMBR2851	BFS17	MMBT5089	BCF33	MMST3904	PMBT3904
MMBR2857	BFS17	MMBT5179	BFR53	MMST3906	PMBT3906
MMBR4957	BF569	MMBT5401	PMBT5401	MMST4124	PMBT3904
MMBR5031	BFG17A	MMBT5550	PMBT5550	MMST4126	PMBT3906
MMBR5031	BFS17A	MMBT6428	PMBT6428	MMST4401	PMBT4401
MMBR5179	BFG17A	MMBT6429	PMBT6429	MMST4403	PMBT4403
MMBR5179	BFS17A	MMBT6515	BCX70H	MMST5088	PMBT5088
MMBR536L	BFT92	MMBTA05	PMBTA05	MMST5089	PMBT5089

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
MMSTA06	PMBTA06	MPS3638	MPS6534	MPSA05	MPSA05
MMSTA13	PMBTA13	MPS3639	MPS3640	MPSA06	MPSA06
MMSTA14	PMBTA14	MPS3640	MPS3640	MPSA09	2N5088
MMSTA20	PMBTA20	MPS3644	PN2907A	MPSA10	2N3904
MMSTA56	PMBTA56	MPS3645	PN2907A	MPSA12	MPSA12
MMSTA63	PMBTA63	MPS3646	PN2907	MPSA13	MPSA13
MMSTA64	PMBTA64	MPS3702	MPS3702	MPSA14	MPSA14
MPE910	2N7000	MPS3703	MPS3703	MPSA25	MPSA25
MPF102	BF245A	MPS3704	MPS3704	MPSA26	MPSA26
MPF108	BF245	MPS3706	2N3904	MPSA27	MPSA27
MPF111	BF245	MPS3707	2N3904	MPSA42	MPSA42
MPF256	J309	MPS3709	2N3904	MPSA43	MPSA43
MPF3822	2N3822	MPS3710	2N3904	MPSA55	MPSA55
MPF3823	2N3823	MPS3711	2N3904	MPSA56	MPSA56
MPF4391	PN4391	MPS3904	MPS3904	MPSA62	MPSA62
MPF4392	PN4392	MPS3906	MPS3906	MPSA63	MPSA63
MPF4393	PN4393	MPS4888	2N5401	MPSA64	MPSA64
MPF4416	PN4416	MPS4889	2N5401	MPSA75	MPSA75
MPF4856A	2N4856	MPS5133	2N3904	MPSA76	MPSA76
MPF4857A	2N4857	MPS5134	PN2369	MPSA76	MPSA77
MPF4858A	2N4858	MPS5135	2N4401	MPSA77	MPSA77
MPF4859A	2N4859	MPS5136	2N4400	MPSA857	MPSA55
MPF4860A	2N4860	MPS5137	2N4400	MPSA858	MPSA55
MPF4861A	2N4861	MPS5138	2N4403	MPSA92	MPSA92
MPF820	BFU310	MPS5142	2N4402	MPSA93	MPSA93
MPF910	BS170	MPS5143	2N4402	MPSD01	MPSA42
MPF9200	BST74A	MPS5551	2N5551	MPSD02	2N5550
MPF970	J174	MPS5856	MPSA05	MPSD03	2N5550
MPF971	J176	MPS6513	MPS6513	MPSD04	MPSA12
MPG06A	BYD13D	MPS6514	MPS6514	MPSD05	MPSA06
MPG06B	BYD13D	MPS6515	MPS6515	MPSD06	2N4400
MPG06D	BYD13D	MPS6517	MPS6517	MPSD51	MPSA92
MPG06G	BYD13G	MPS6518	MPS6518	MPSD52	2N5401
MPG06J	BYD13J	MPS6519	MPS6519	MPSD53	2N5550
MPG06K	BYD13K	MPS6520	MPS6520	MPSD56	2N3906
MPG06M	BYD13M	MPS6521	MPS6521	MPSH10	MPSH10
MPS2222	PN2222	MPS6522	MPS6522	MPSH81	MPSH81
MPS2222A	PN2222A	MPS6523	MPS6523	MPSL01	2N5550
MPS2369	PN2369	MPS6531	MPS6531	MPSL51	2N5550
MPS2369A	PN2369A	MPS6532	MPS6532	MR500	BYM56A
MPS2713	2N3904	MPS6534	MPS6534	MR501	BYM56A
MPS2714	PN2369	MPS6535	MPS6535	MR502	BYM56A
MPS2907	PN2907	MPS6571	2N5088	MR503	BYM56B
MPS2907A	PN2907A	MPS6573	2N3904	MR504	BYM56B
MPS2923	2N4123	MPS6574	2N3904	MR5059	1N5059
MPS2923	2N5088	MPS6575	2N3904	MR506	BYM56C
MPS2924	2N4124	MPS706	PN2369	MR5060	1N5060
MPS2925	2N4124	MPS706A	PN2369	MR5061	1N5061
MPS2926	2N4124	MPS708	PN2369	MR508	BYM56D
MPS3391A	2N4124	MPS8098	MPS8098	MR510	BYM56E
MPS3392	2N4124	MPS834	PN2369	MR810	BYD33D
MPS3393	2N4124	MPS835	PN2369	MR811	BYD33D
MPS3394	2N4123	MPS8598	MPS8598	MR812	BYD33D
MPS3395	2N4123	MPS911	BF751	MR814	BYD33G
MPS3564	PN2369	MPS929A	PN2369	MR816	BYD33J
MPS3565	2N4401	MPS930	PN2369	MR817	BYD33K

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
MR818	BYD33M	MRF164W	BLF544B	MRF426	BLX13C
MR830	BYW95A	MRF166	BLF244	MRF426A	BLX13
MR831	BYW95A	MRF166C	BLF544	MRF428	BLW95
MR832	BYW95A	MRF166W	BLF545	MRF429	BLW95
MR834	BYW95B	MRF172	BLF246	MRF435	BLW77
MR836	BYW95C	MRF173	BLF346	MRF448	BLW96
MR850	BYW95A	MRF174	BLF147	MRF454	BLW99
MR851	BYW95A	MRF175GU	BLF548	MRF458	BLW99
MR852	BYW95A	MRF175GV	BLF348	MRF464	BLW50F
MR854	BYW95B	MRF176GV	BLF378	MRF464	BLW76
MR856	BYW95C	MRF1946	BLV12	MRF464A	BLX14
MR910	BYW95A	MRF1946A	BLW31	MRF501	BFY90
MR911	BYW95A	MRF2001B	PTB23001X	MRF502	BFY90
MR912	BYW95A	MRF2001M	PTB23001X	MRF504	BFR64
MR914	BYW95B	MRF2003B	PTB23003X	MRF511	BFR64
MR916	BYW95C	MRF2003M	PTB23003X	MRF517	BFR95
MR917	BYW96D	MRF2005B	PTB23005X	MRF5174	BLW89
MR918	BYW96E	MRF2005M	PTB23005X	MRF5175	BLV30
MRA1417-11	PZ1418B15U	MRF2010B	PVB42004X	MRF5176	BLV31
MRA1417-25A	PZ1418B30U	MRF2010M	PVB42004X	MRF5177A	BLX94A
MRA1720-20	PZ1721B25U	MRF2016M	PZ1721B12U	MRF519	BFR95
MRA1720-9	PZ1721B12U	MRF207	2N4427	MRF5211L	BFG197/X
MRAL1417-11	PZ1418B15U	MRF212	BLV10	MRF523	BFQ23C
MRAL1417-25	PZ1418B30U	MRF221	BLV11	MRF524	BFQ32M
MRAL1720-20	PZ1721B25U	MRF222	BLW87	MRF525	BFR95
MRAL1720-9	PZ1721B12U	MRF224	BLW85	MRF536	BFQ23
MRAL2023-12	PZ2024B20U	MRF226	BLW29	MRF536	BFQ51
MRAL2023-6	PZ2024B10U	MRF232	BLY87C	MRF544	BFQ233
MRAL2327-12	PZ2327B15U	MRF233	BLW29	MRF545	BFQ253
MRB11040W	MRB11040W	MRF234	BLW31	MRF546	BFQ268
MRB11175Y	MRB11175Y	MRF2369	BFG195	MRF546	BFQ268/I
MRB11350Y	MRB111350Y	MRF2369	BFG91A	MRF547	BFQ254/I
MRB11350Y	MRB11350Y	MRF237	BFQ43	MRF547	BFQ268
MRF1000MA	LCE2003S	MRF237	BFQ43S	MRF548	BFQ234
MRF1000MB	LBE2003S	MRF238	BLW31	MRF548	BFQ234/I
MRF1000MC	LTE4002S	MRF239	BLW30	MRF549	BFQ254
MRF10030	MZ0912B50Y	MRF240	BLW40	MRF549	BFQ254/I
MRF10120	MZ0912B100Y	MRF240A	BLV13	MRF557	BFG34
MRF1090MA	MZ0912B100Y	MRF247	BLV75/12	MRF559	BFG96
MRF1090MB	MZ0912B100Y	MRF2628	BLY87C	MRF559	BLU98
MRF1090MC	MZ0912B100Y	MRF2628	BLY88C/01	MRF571	BFG195
MRF1250M	MX0912B250Y	MRF313A	BLX91A	MRF5711	BFG197/X
MRF134	BLF242	MRF314	BLV21	MRF572	BFQ66
MRF1350M	MX0912B350Y	MRF314A	BLY93A	MRF573	BFP91A
MRF136	BLF244	MRF315	BLW86	MRF580	BFQ34T
MRF136Y	BLF245B	MRF315A	BLX39	MRF580	BFR134
MRF137	BLF245	MRF316	BLV80/28	MRF580	BFR96
MRF138	BLF145	MRF321	BLW33	MRF580A	BFR96S
MRF140	BLF147	MRF323	BLV31	MRF581	BFG134
MRF141	BLF147	MRF323	BLX94C	MRF581	BFG96
MRF141G	BLF248	MRF335	BLU30/28	MRF5812	BFG97
MRF141G	BLF368	MRF4070	BLV75/12	MRF581A	BFG34
MRF148	BLF175	MRF416	BLV45/12	MRF586	BFQ163
MRF150	BLF177	MRF421	BLW99	MRF586	BFR95
MRF151	BLF177	MRF422	BLW97	MRF587	BFQ34
MRF151G	BLF278	MRF426	BLW83	MRF587	BFQ34/01

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
MRF607	BFQ42	MRF9411L	BFG67/X	MTB10010U	MTB10010U
MRF619	BLU20/12	MRF942	BFQ33C	MTH15N20	BUK436-200A
MRF620	BLU20/12	MRF943	BFQ66	MTH25N08	BUK436-100B
MRF621	BLU45/12	MRF947	BFQ67W	MTH25N10	BUK436-100B
MRF6211L	BFG93A/X	MRF947	BFS520	MTH35N05	BUK436-60B
MRF629	BLX65	MRF951	BFG65	MTH40N05	BUK436-60A
MRF629	BLX65ES	MRF951	BFR541	MTH5N100	BUK438-1000B
MRF641	BLU20/12	MRF9511	BFG67X	MTH5N95	BUK438-1000B
MRF644	BLU20/12	MRF9511L	BFG540/X	MTH6N55	BUK437-600B
MRF646	BLU30/12	MRF952	BFP520	MTH6N60	BUK437-600B
MRF646	BLU45/12	MRF952	BFQ66	MTH6N90	BUK438-1000B
MRF648	BLU60/12	MRF953	BFQ66	MTH7N45	BUK437-500B
MRF652	BLU99	MRF957	BFQ67W	MTH7N50	BUK437-500B
MRF652	BLW80	MRF957	BFS540	MTH8N35	BUK437-400B
MRF653	BLU10/12	MRF961	BFG91A	MTH8N40	BUK437-400B
MRF654	BLU15/12	MRF961	BFG96	MTP10N10	BUK452-100B
MRF752	BLV99/SL	MRF962	BFP91A	MTP10N12	BUK456-200B
MRF754	BLT53	MRFQ17	BFG16A	MTP10N15	BUK456-200B
MRF836	BLV90/SL	MRFQ19	BFG97	MTP10N35	BUK457-400B
MRF837	BLU98	MRL005	BAV100	MTP10N40	BUK457-400B
MRF8372	BFG97	MRL010	BAV101	MTP10N5	BUK453-60B
MRF838	BLV90/SL	MRL020	BAV103	MTP10N6	BUK453-100B
MRF838A	BLV90	MSB11900Y	MSB11900Y	MTP10N8	BUK453-100B
MRF839F	BLV92	MSC1635L	PXB16050U	MTP12N10	BUK453-100A
MRF840	BLV93	MSC3001	PTB32001X	MTP12N10L	BUK553-100A
MRF841	BLU99	MSC3003	PTB32003X	MTP12N18	BUK445-200A
MRF842	BLV95	MSC3005	PTB32005X	MTP12N20	BUK455-200B
MRF843	BLV94	MSC4000	PTB42001X	MTP12N5	BUK453-60B
MRF843F	BLV94	MSC4001	PTB42002X	MTP12N6	BUK453-100B
MRF844	BLV95	MSC4003	PTB42003X	MTP12N8	BUK453-100B
MRF8511F	BFG67/X	MSC80044	LCE2003S	MTP14N05	BUK452-60A
MRF8511L	BFG520/X	MSC80064	LTE4002S	MTP15N05	BUK452-60A
MRF8511L	BFG67/X	MSC80185	LCE2009S	MTP15N05E	BUK453-60B
MRF870A	BLV91	MSC80195	LTE21009R	MTP15N05L	BUK553-60B
MRF873	BLV194	MSC80196	LTE21015R	MTP15N06L	BUK552-60A
MRF890	BLW32	MSC80197	LTE21025R	MTP15N12	BUK456-200B
MRF891	BLV103	MSC80725	LTE21025R	MTP15N15	BUK456-200B
MRF892	BLV98	MSC82001	PTB23001X	MTP16N05	BUK453-60A
MRF894	BLV97	MSC82003	PTB23003X	MTP1N100	BUK456-1000B
MRF894	BLV99	MSC82005	PTB23005X	MTP1N45	BUK454-500B
MRF897	BLV945A	MSC82201	PTB23001X	MTP1N50	BUK454-500B
MRF899	BLV948	MSC82203	PTB23003X	MTP1N95	BUK456-1000B
MRF901	BFG90A	MSC83001	PTB32001X	MTP20N08	BUK455-100A
MRF9011L	BFG92A/X	MSC83003	PTB32003X	MTP20N10	BUK455-100B
MRF903	BFP90A	MSC83005	PTB32005X	MTP20N10E	BUK455-100B
MRF904	BFQ53	MSC83301	PTB32001X	MTP25N05	BUK455-60B
MRF911	BFG91A	MSC83303	PTB32003X	MTP25N05L	BUK455-60B
MRF912	BFG91A	MSC83305	PTB32005X	MTP25N06	BUK455-100A
MRF914	BFQ22S	MSC83911	LWE2015R	MTP25N10	BUK455-100A
MRF931	BFT24	MSC83912	LWE2015R	MTP25N10E	BUK455-100A
MRF9331	BFG25AX	MSC83913	LWE2025R	MTP2N35	BUK454-400B
MRF9331L	BFG25A/X	MSC83915	LWE2025R	MTP2N40	BUK454-400B
MRF941	BFG65	MSC84001	PTB42002X	MTP2N45	BUK454-500B
MRF941	BFR521	MSC84101	LTE21009R	MTP2N60	BUK454-600B
MRF9411	BFG67X	MSC84103	LCE2009S	MTP2N85	BUK456-1000B
MRF9411L	BFG520/X	MSC84105	LWE2015R	MTP2N90	BUK456-1000B

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
MTP3055E	BUK452-60B	MUR3005PT	BYV72E-50	NE02135	BFP91A
MTP30N05E	BUK455-60B	MUR405	BYV28-50	NE02137	BFG91A
MTP3N100	BUK456-1000A	MUR410	BYV28-100	NE022025-12	BLY88C
MTP3N35	BUK454-400B	MUR415	BYV28-150	NE022025-28	BLY93A
MTP3N40	BUK454-400B	MUR420	BYV28-200	NE024027-28	BLX39
MTP3N50	BUK454-500B	MUR430	BYV28-300	NE028029-12	BLV75/12
MTP3N60	BUK455-600B	MUR440	BYV28-400	NE028029-28	BLV80/28
MTP3N75	BUK454-800A	MUR8100	BY329-1000	NE050214-12	BLX65
MTP3N80	BUK454-800A	MUR840	BYV29-400	NE050320-12	BLU11
MTP3N95	BUK456-1000A	MUR860	BYR29-600	NE050320-12	BLW79
MTP45N05E	BUK455-60A	MURS105T3	BYG80A	NE051020-28	BLW33
MTP4N40	BUK454-400B	MURS110T3	BYG80B	NE051025-12	BLW81
MTP4N50	BUK455-500B	MURS115T3	BYG80C	NE052025-28	BLV31
MTP50N05E	BUK456-60A	MURS120T3	BYG80D	NE080420E-12	BLU99
MTP5N18	BUK454-200B	MURS130T3	BYG80F	NE21908	BFQ66
MTP5N20	BUK454-200B	MURS140T3	BYG80G	NE21935	BFQ66
MTP5N30	BUK454-400B	MURS150T3	BYG80J	NE21937	BFQ65
MTP5N35	BUK455-400B	MURS160T3	BYG80J	NE21937	BFR91A
MTP5N40	BUK455-400B	MV104	BB204B	NE22120	BFQ34
MTP6N55	BUK457-600B	MV104G	BB204G	NE24615	BFR95
MTP6N60	BUK457-600B	MVAM108	BB112	NE24620	BFQ34
MTP7N12	BUK454-200B	MVAM109	BB112	NE32702	BFP91A
MTP7N15	BUK454-200B	MVAM125	BB130	NE32707	BFP91A
MTP7N18	BUK454-200B	MX0912B250Y	MX0912B250Y	NE32708	BFP90A
MTP7N20	BUK454-200B	MX0912B350Y	MX0912B350Y	NE41620	BFQ34
MTP8N10	BUK454-200A	MX1011B200Y	MX1011B200Y	NE41635	BFP91A
MTP8N12	BUK454-200A	MX1011B430W	MX1011B430W	NE41635	BFP96
MTP8N15	BUK454-200A	MX1011B700Y	MX1011B700Y	NE41712	BFQ22S
MTP8N18	BUK454-200A	MXR3866	BFQ17	NE56708	BFQ66
MTP8N20	BUK454-200A	MXR5583	BFQ149	NE57510	BFR95
MTP8N50	BUK457-500B	MXR5943	BFQ17	NE57520	BFQ34
MTP8N8	BUK454-200A	MXT2222A	PXT2222A	NE57803	BFQ33C
MUR105	BYD73A	MXT2907A	PXT2907A	NE57807	BFQ33C
MUR110	BYD73B	MXT3904	PXT3904	NE57808	BFQ33C
MUR1100	BYV26E	MXT3906	PXT3906	NE57835	BFP91A
MUR1100E	BYV26E	MZ0912B100Y	MZ0912B100Y	NE57835	BFQ66
MUR115	BYD73C	MZ0912B50Y	MZ0912B50Y	NE59312	BFQ52
MUR120	BYD73D	N2102A	2N1893	NE59335	BFQ23
MUR130	BYD73F	N2195A	2N1613	NE59335	BFQ51C
MUR140	BYD73G	N40333	MPS3703	NE59503	BFP96
MUR150	BYV26C	N6005	2N4402	NE64310	BFR95
MUR1505	BYV79E-50	NAE2401	BYV32E-50	NE64320	BFQ34
MUR1510	BYV79E-100	NAE2402	BYV32E-100	NE64320	BFQ34/01
MUR1515	BYV79E-150	NAE2403	BYV32E-150	NE64535	BFP520
MUR1520	BYV79E-200	NAE2404	BYV32E-200	NE64535	BFQ33C
MUR160	BYV26C	NE020214-12	BFQ42	NE64535	BFQ66
MUR1605CT	BYV32E-50	NE020320-12	BLW79	NE68030	BFS505
MUR1610CT	BYV32E-100	NE020620-07	BLW81	NE68033	BFR505
MUR1615CT	BYV32E-150	NE021020-12	BLW81	NE68035	BFP505
MUR1620CT	BYV32E-200	NE021020-12	BLY87A	NE68035	BFQ33C
MUR170	BYV26D	NE021020-12	BLY87C/01	NE68035	BFQ66
MUR170E	BYV26D	NE02107	BFQ66	NE68039E	BFG33/XR
MUR180	BYV26D	NE02108	BFP91A	NE68039E	BFG505/XR
MUR180E	BYV26D	NE02112	BFQ22S	NE68130	BFQ67W
MUR190	BYV26E	NE02132	BF751	NE68130	BFS520
MUR190E	BYV26E	NE02133	BFR93A	NE68132	BF751

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
NE68133	BFQ67	OM2050	OM2050	P4KA18A	BZW03-C18
NE68133	BFR520	OM2052	OM2052	P4KA20	BZW03-C20
NE68135	BFP520	OM2060	OM2060	P4KA20A	BZW03-C20
NE68135	BFQ66	OM2061	OM2061	P4KA22	BZW03-C22
NE68137	BFG65	OM2063	OM2063	P4KA22A	BZW03-C22
NE68137	BFR521	OM2064	OM2064	P4KA24	BZW03-C24
NE68137	BFR91A	OM2070	OM2070	P4KA24A	BZW03-C24
NE68139E	BFG520/XR	OM2070B	OM2070B	P4KA27	BZW03-C27
NE68139E	BFG67/XR	OM2081	OM2081	P4KA27A	BZW03-C27
NE68333	BFT25A	OM2082	OM2082	P4KA30	BZW03-C30
NE73412	BFQ22S	OM2083	OM2083	P4KA30A	BZW03-C30
NE73432	ON4185	OM3016	OM3016	P4KA33	BZW03-C33
NE73433	BFR93A	OM3026	OM3026	P4KA33A	BZW03-C33
NE73435	BFP91A	OM320	OM320	P4KA36	BZW03-C36
NE73437	BFR91A	OM321	OM321	P4KA36A	BZW03-C36
NE73437	BFW93	OM322	OM322	P4KA39	BZW03-C39
NE73439E	BFG92A/XR	OM323	OM323	P4KA39A	BZW03-C39
NE74014	BFR95	OM335	OM335	P4KA43	BZW03-C43
NE74020	BFQ34	OM336	OM336	P4KA43A	BZW03-C43
NE74113	BFR95	OM337	OM337	P4KE10	BZW03-C10
NE74114	BFR95	OM339	OM339	P4KE100	BZW03-C100
NE77320	BFQ34	OM925	OM925	P4KE100A	BZW03-C100
NE85630	BFQ67W	OM926	OM926	P4KE10A	BZW03-C10
NE85630	BFS520	OM926E	OM926E	P4KE11	BZW03-C11
NE85632	BF751	OM926ESMD	OM926ESMD	P4KE110	BZW03-C110
NE85632	ON4184	OM956/1	OM956/1	P4KE110A	BZW03-C110
NE85633	BFQ67	OM975	OM975	P4KE11A	BZW03-C11
NE85633	BFR520	OM976	OM976	P4KE12	BZW03-C12
NE85635	BFP520	OM977	OM977	P4KE120	BZW03-C120
NE85635	BFQ66	OM978	OM978	P4KE120A	BZW03-C120
NE85637	BFG195	OMOB-45	BLU45/12	P4KE12A	BZW03-C12
NE85637	BFR521	ON4612	ON4612	P4KE13	BZW03-C13
NE85639E	BFG520/XR	P0102AB	BT149-B	P4KE130	BZW03-C130
NE85639E	BFG67/XR	P0102BB	BT149-B	P4KE130A	BZW03-C130
NE88912	BFQ24	P0102CB	BT149-D	P4KE13A	BZW03-C13
NE88933	BFT93	P0102DB	BT149-D	P4KE15	BZW03-C15
NE88935	BFQ23C	P300A	BYM56A	P4KE150	BZW03-C150
NE88935	BFQ66	P300B	BYM56A	P4KE150A	BZW03-C150
NE99532	BF748	P300D	BYM56A	P4KE15A	BZW03-C15
NEL080120-24	BLW32	P300G	BYM56B	P4KE16	BZW03-C16
NEM028029-12	BLV75/12	P300J	BYM56C	P4KE160	BZW03-C160
NEM054029-12	BLU30/12	P300K	BYM56D	P4KE160A	BZW03-C160
NEM054029-12	BLU45/12	P300M	BYM56E	P4KE16A	BZW03-C16
NEM056029-12	BLU45/12	P4KA10	BZW03-C10	P4KE18	BZW03-C18
NEM056029-12	BLU60/12	P4KA10A	BZW03-C10	P4KE180	BZW03-C180
NEM080481E-12	BLV92	P4KA11	BZW03-C11	P4KE180A	BZW03-C180
NEM081081E-12	BLV93	P4KA11A	BZW03-C11	P4KE18A	BZW03-C18
NEM082081B-12	BLV94	P4KA12	BZW03-C12	P4KE20	BZW03-C20
NEM084081B-12	BLV95	P4KA12A	BZW03-C12	P4KE200	BZW03-C200
NEM094081B-28	BLV97	P4KA13	BZW03-C13	P4KE200A	BZW03-C200
NEM095081B-28	BLV97	P4KA13A	BZW03-C13	P4KE20A	BZW03-C20
NS8DT	BY249-300	P4KA15	BZW03-C15	P4KE22	BZW03-C22
NS8GT	BY249-600	P4KA15A	BZW03-C15	P4KE220	BZW03-C220
NS8JT	BY249-600	P4KA16	BZW03-C16	P4KE220A	BZW03-C220
OM2045	OM2045	P4KA16A	BZW03-C16	P4KE22A	BZW03-C22
OM2046	OM2046	P4KA18	BZW03-C18	P4KE24	BZW03-C24

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
P4KE24A	BZW03-C24	P6KA18A	BZW03-C18	P6KE24	BZW03-C24
P4KE250	BZW03-C240	P6KA20	BZW03-C20	P6KE24A	BZW03-C24
P4KE250A	BZW03-C240	P6KA20A	BZW03-C20	P6KE250	BZW03-C240
P4KE27	BZW03-C27	P6KA22	BZW03-C22	P6KE250A	BZW03-C240
P4KE27A	BZW03-C27	P6KA22A	BZW03-C22	P6KE27	BZW03-C27
P4KE30	BZW03-C30	P6KA24	BZW03-C24	P6KE27A	BZW03-C27
P4KE300	BZW03-C300	P6KA24A	BZW03-C24	P6KE30	BZW03-C30
P4KE300A	BZW03-C300	P6KA27	BZW03-C27	P6KE300	BZW03-C300
P4KE30A	BZW03-C30	P6KA27A	BZW03-C27	P6KE300A	BZW03-C300
P4KE33	BZW03-C33	P6KA30	BZW03-C30	P6KE30A	BZW03-C30
P4KE33A	BZW03-C33	P6KA30A	BZW03-C30	P6KE33	BZW03-C33
P4KE350	BZW03-C330	P6KA33	BZW03-C33	P6KE33A	BZW03-C33
P4KE350A	BZW03-C330	P6KA33A	BZW03-C33	P6KE350	BZW03-C330
P4KE36	BZW03-C36	P6KA36	BZW03-C36	P6KE350A	BZW03-C330
P4KE36A	BZW03-C36	P6KA36A	BZW03-C36	P6KE36	BZW03-C36
P4KE39	BZW03-C39	P6KA39	BZW03-C39	P6KE36A	BZW03-C36
P4KE39A	BZW03-C39	P6KA39A	BZW03-C39	P6KE39	BZW03-C39
P4KE400	BZW03-C390	P6KA43	BZW03-C43	P6KE39A	BZW03-C39
P4KE400A	BZW03-C390	P6KA43A	BZW03-C43	P6KE400	BZW03-C390
P4KE43	BZW03-C43	P6KE	BZW03	P6KE400A	BZW03-C390
P4KE43A	BZW03-C43	P6KE10	BZW03-C10	P6KE43	BZW03-C43
P4KE47	BZW03-C47	P6KE100	BZW03-C100	P6KE43A	BZW03-C43
P4KE47A	BZW03-C47	P6KE100A	BZW03-C100	P6KE47	BZW03-C47
P4KE51	BZW03-C51	P6KE10A	BZW03-C10	P6KE47A	BZW03-C47
P4KE51A	BZW03-C51	P6KE11	BZW03-C11	P6KE51	BZW03-C51
P4KE56	BZW03-C56	P6KE110	BZW03-C110	P6KE51A	BZW03-C51
P4KE56A	BZW03-C56	P6KE110A	BZW03-C110	P6KE56	BZW03-C56
P4KE62	BZW03-C62	P6KE11A	BZW03-C11	P6KE56A	BZW03-C56
P4KE62A	BZW03-C62	P6KE12	BZW03-C12	P6KE62	BZW03-C62
P4KE68	BZW03-C68	P6KE120	BZW03-C120	P6KE62A	BZW03-C62
P4KE68A	BZW03-C68	P6KE120A	BZW03-C120	P6KE68	BZW03-C68
P4KE75	BZW03-C75	P6KE12A	BZW03-C12	P6KE68A	BZW03-C68
P4KE75A	BZW03-C75	P6KE13	BZW03-C13	P6KE75	BZW03-C75
P4KE7.5	BZW03-C7V5	P6KE130	BZW03-C130	P6KE75A	BZW03-C75
P4KE7.5A	BZW03-C7V5	P6KE130A	BZW03-C130	P6KE7.5	BZW03-C7V5
P4KE82	BZW03-C82	P6KE13A	BZW03-C13	P6KE7.5A	BZW03-C7V5
P4KE82A	BZW03-C82	P6KE15	BZW03-C15	P6KE82	BZW03-C82
P4KE8.2	BZW03-C8V2	P6KE150	BZW03-C150	P6KE82A	BZW03-C82
P4KE8.2A	BZW03-C8V2	P6KE150A	BZW03-C150	P6KE8.2	BZW03-C8V2
P4KE91	BZW03-C91	P6KE15A	BZW03-C15	P6KE8.2A	BZW03-C8V2
P4KE91A	BZW03-C91	P6KE16	BZW03-C16	P6KE91	BZW03-C91
P4KE9.1	BZW03-C9V1	P6KE160	BZW03-C160	P6KE91A	BZW03-C91
P4KE9.1A	BZW03-C9V1	P6KE160A	BZW03-C160	P6KE9.1	BZW03-C9V1
P6KA10	BZW03-C10	P6KE16A	BZW03-C16	P6KE9.1A	BZW03-C9V1
P6KA10A	BZW03-C10	P6KE18	BZW03-C18	PBYR10100	PBYR10100
P6KA11	BZW03-C11	P6KE180	BZW03-C180	PBYR1035	PBYR1035
P6KA11A	BZW03-C11	P6KE180A	BZW03-C180	PBYR1040	PBYR1040
P6KA12	BZW03-C12	P6KE18A	BZW03-C18	PBYR1040F	PBYR1040F
P6KA12A	BZW03-C12	P6KE20	BZW03-C20	PBYR1045	PBYR1045
P6KA13	BZW03-C13	P6KE200	BZW03-C200	PBYR1060	PBYR1060
P6KA13A	BZW03-C13	P6KE200A	BZW03-C200	PBYR1080	PBYR1080
P6KA15	BZW03-C15	P6KE20A	BZW03-C20	PBYR12035TV	PBYR12035TV
P6KA15A	BZW03-C15	P6KE22	BZW03-C22	PBYR12040TV	PBYR12040TV
P6KA16	BZW03-C16	P6KE220	BZW03-C220	PBYR12045TV	PBYR12045TV
P6KA16A	BZW03-C16	P6KE220A	BZW03-C220	PBYR1535CT	PBYR1535CT
P6KA18	BZW03-C18	P6KE22A	BZW03-C22	PBYR1535CTF	PBYR1535CTF

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
PBYR1540CT	PBYR1540CT	PFF6	BYV26C	PM6	1N5061
PBYR1540CTF	PBYR1540CTF	PFF8	BYV26D	PM8	1N5062
PBYR1545CT	PBYR1545CT	PFR0	BYV36E	PMBD2835	PMBD2835
PBYR16035TV	PBYR16035TV	PFR850	BYM36A	PMBD2836	PMBD2836
PBYR16040TV	PBYR16040TV	PFR851	BYM36A	PMBD2837	PMBD2837
PBYR16045TV	PBYR16045TV	PFR852	BYM36A	PMBD2838	PMBD2838
PBYR1635	PBYR1635	PFR854	BYM36B	PMBD352	PMBD352
PBYR1640	PBYR1640	PFR856	BYM36C	PMBD353	PMBD353
PBYR1640F	PBYR1640F	PH0401H	BLW89	PMBD6050	PMBD6050
PBYR1645	PBYR1645	PH0403H	BLV30	PMBD6100	PMBD6100
PBYR20100CT	PBYR20100CT	PH0406H	BLV30	PMBD7000	PMBD7000
PBYR2035CT	PBYR2035CT	PH0412H	BLW33	PMBD914	PMBD914
PBYR2035CTF	PBYR2035CTF	PH0425H	BLX94A	PMBF107	PMBF107
PBYR2040CT	PBYR2040CT	PH0501H	BLW89	PMBF170	PMBF170
PBYR2045CT	PBYR2045CT	PH0503H	BLV30	PMBF4391	PMBF4391
PBYR2050CT	PBYR2050CT	PH2222A	PH2222A	PMBF4392	PMBF4392
PBYR2060CT	PBYR2060CT	PH2369	PH2369	PMBF4393	PMBF4393
PBYR2080CT	PBYR2080CT	PH2907	PH2907	PMBF4416	PMBF4416
PBYR235CT	PBYR235CT	PH2907A	PH2907A	PMBF4416A	PMBF4416A
PBYR240CT	PBYR240CT	PH5415	PH5415	PMBF5484	PMBF5484
PBYR245CT	PBYR245CT	PH5416	PH5416	PMBF5485	PMBF5485
PBYR2535CT	PBYR2535CT	PHA4517-1	BGY84	PMBF5486	PMBF5486
PBYR2540CT	PBYR2540CT	PHA4517-2	BGY85	PMBFJ108	PMBFJ108
PBYR2540CTF	PBYR2540CTF	PHA4518-1	BGY86A	PMBFJ109	PMBFJ109
PBYR2545CT	PBYR2545CT	PHA4518-2	BGY85A	PMBFJ110	PMBFJ110
PBYR280CT	PBYR280CT	PHA5018-1	BGY584A	PMBFJ111	PMBFJ111
PBYR290CT	PBYR290CT	PHA5018-2	BGY585A	PMBFJ112	PMBFJ112
PBYR30100PT	PBYR30100PT	PLB16004U	PLB16004U	PMBFJ113	PMBFJ113
PBYR3035PT	PBYR3035PT	PLB16012U	PLB16012U	PMBFJ174	PMBFJ174
PBYR3040PT	PBYR3040PT	PLB16030U	PLB16030U	PMBFJ175	PMBFJ175
PBYR3040PTF	PBYR3040PTF	PLQ08	BYD73B	PMBFJ176	PMBFJ176
PBYR3045PT	PBYR3045PT	PLQ1	BYD73B	PMBFJ177	PMBFJ177
PBYR3050PT	PBYR3050PT	PLR810	BYD33D	PMBFJ308	PMBFJ308
PBYR3060PT	PBYR3060PT	PLR811	BYD33D	PMBFJ309	PMBFJ309
PBYR3080PT	PBYR3080PT	PLR812	BYD33D	PMBFJ310	PMBFJ310
PBYR640CT	PBYR640CT	PLR813	BYD33G	PMBS3904	PMBS3904
PBYR645CT	PBYR645CT	PLR814	BYD33G	PMBS3906	PMBS3906
PBYR735	PBYR735	PLR815	BYD33G	PMBT2222	PMBT2222
PBYR740	PBYR740	PLR816	BYD33J	PMBT2222A	PMBT2222A
PBYR740F	PBYR740F	PLR817	BYD33K	PMBT2369	PMBT2369
PBYR745	PBYR745	PLR818	BYD33M	PMBT2905	PMBT2907
PE4010	MPS6521	PLVA450A	PLVA450A	PMBT2905A	PMBT2907A
PE7058	MPSA42	PLVA453A	PLVA453A	PMBT2907	PMBT2907
PE7059	MPSA42	PLVA456A	PLVA456A	PMBT2907A	PMBT2907A
PEE0015U	BLV31	PLVA459A	PLVA459A	PMBT3640	PMBT3640
PEE0020U	BLV31	PLVA462A	PLVA462A	PMBT3904	PMBT3904
PEE0035U	BLX94A	PLVA465A	PLVA465A	PMBT3905	PMBT3906
PF0	BYV96E	PLVA468A	PLVA468A	PMBT3906	PMBT3906
PF20	BY505	PLVA650A	PLVA650A	PMBT4400	PMBT4401
PF4HZ	BYM56B	PLVA653A	PLVA653A	PMBT4401	PMBT4401
PF6HZ	BYM56C	PLVA656A	PLVA656A	PMBT4402	PMBT4403
PF8	BYV96D	PLVA659A	PLVA659A	PMBT4403	PMBT4403
PF8HZ	BYM56D	PLVA662A	PLVA662A	PMBT5088	PMBT5088
PFF0	BYV26E	PLVA665A	PLVA665A	PMBT5089	PMBT5089
PFF2	BYV26A	PLVA668A	PLVA668A	PMBT5401	PMBT5401
PFF4	BYV26B	PM0	BYW56	PMBT5550	PMBT5550

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
PMBT5551	PMBT5551	PMLL4448	PMLL4448	PN2369A	PN2369A
PMBT6427	PMBT6427	PMLL5225B	PMLL5225B	PN2907	PN2907
PMBT6428	PMBT6428	PMLL5226B	PMLL5226B	PN2907A	PN2907A
PMBT6429	PMBT6429	PMLL5227B	PMLL5227B	PN3439	PN3439
PMBTA05	PMBTA05	PMLL5228B	PMLL5228B	PN3440	PN3440
PMBTA06	PMBTA06	PMLL5229B	PMLL5229B	PN3566	2N5086
PMBTA13	PMBTA13	PMLL5230B	PMLL5230B	PN3567	MPSA06
PMBTA14	PMBTA14	PMLL5231B	PMLL5231B	PN3569	PN2222A
PMBTA20	PMBTA20	PMLL5232B	PMLL5232B	PN3640	MPS3640
PMBTA42	PMBTA42	PMLL5233B	PMLL5233B	PN3644	PN2907
PMBTA43	PMBTA43	PMLL5234B	PMLL5234B	PN3646	PN2907
PMBTA55	PMBTA55	PMLL5235B	PMLL5235B	PN3936	MPS3640
PMBTA56	PMBTA56	PMLL5236B	PMLL5236B	PN3962	2N5086
PMBTA63	PMBTA63	PMLL5237B	PMLL5237B	PN4248	2N5086
PMBTA64	PMBTA64	PMLL5238B	PMLL5238B	PN4249	2N5086
PMBTA92	PMBTA92	PMLL5239B	PMLL5239B	PN4391	PN4391
PMBTA93	PMBTA93	PMLL5240B	PMLL5240B	PN4392	PN4392
PMBTH10	PMBTH10	PMLL5241B	PMLL5241B	PN4393	PN4393
PMBTH81	PMBTH81	PMLL5242B	PMLL5242B	PN4416	PN4416
PMBZ5226B	PMBZ5226B	PMLL5243B	PMLL5243B	PN4416A	PN4416A
PMBZ5227B	PMBZ5227B	PMLL5244B	PMLL5244B	PN4888	2N5401
PMBZ5228B	PMBZ5228B	PMLL5245B	PMLL5245B	PN5135	MPS6514
PMBZ5229B	PMBZ5229B	PMLL5246B	PMLL5246B	PN5136	2N4400
PMBZ5230B	PMBZ5230B	PMLL5247B	PMLL5247B	PN5137	2N4400
PMBZ5231B	PMBZ5231B	PMLL5248B	PMLL5248B	PN5138	2N5086
PMBZ5232B	PMBZ5232B	PMLL5249B	PMLL5249B	PN5415	PN5415
PMBZ5233B	PMBZ5233B	PMLL5250B	PMLL5250B	PN5416	PN5416
PMBZ5234B	PMBZ5234B	PMLL5251B	PMLL5251B	PN5855	MPSA55
PMBZ5235B	PMBZ5235B	PMLL5252B	PMLL5252B	PN5857	MPSA56
PMBZ5236B	PMBZ5236B	PMLL5253B	PMLL5253B	PN5965	2N5551
PMBZ5237B	PMBZ5237B	PMLL5254B	PMLL5254B	PN930	PN2369
PMBZ5238B	PMBZ5238B	PMLL5255B	PMLL5255B	PPC5001T	PPC5001T
PMBZ5239B	PMBZ5239B	PMLL5256B	PMLL5256B	PR1000	BYD33M
PMBZ5240B	PMBZ5240B	PMLL5257B	PMLL5257B	PR1200	BYD33U
PMBZ5241B	PMBZ5241B	PMLL5258B	PMLL5258B	PR1400	BYD33V
PMBZ5242B	PMBZ5242B	PMLL5259B	PMLL5259B	PR1600	BYD43-16
PMBZ5243B	PMBZ5243B	PMLL5260B	PMLL5260B	PR5400	BYM56A
PMBZ5244B	PMBZ5244B	PMLL5261B	PMLL5261B	PR5401	BYM56A
PMBZ5245B	PMBZ5245B	PMLL5262B	PMLL5262B	PR5402	BYM56B
PMBZ5246B	PMBZ5246B	PMLL5263B	PMLL5263B	PR5403	BYM56B
PMBZ5247B	PMBZ5247B	PMLL5264B	PMLL5264B	PR5404	BYM56C
PMBZ5248B	PMBZ5248B	PMLL5265B	PMLL5265B	PR5405	BYM56C
PMBZ5249B	PMBZ5249B	PMLL5266B	PMLL5266B	PR5406	BYM56D
PMBZ5250B	PMBZ5250B	PMLL5267B	PMLL5267B	PR5407	BYM56E
PMBZ5251B	PMBZ5251B	PMSS3904	PMSS3904	PR5408	BY228
PMBZ5252B	PMBZ5252B	PMSS3906	PMSS3906	PRF540	BUK455-100A
PMBZ5253B	PMBZ5253B	PMST2369	PMST2369	PRF542	BUK455-100B
PMBZ5254B	PMBZ5254B	PMST3904	PMST3904	PRF640	BUK456-200A
PMBZ5255B	PMBZ5255B	PMST3906	PMST3906	PRF642	BUK456-200A
PMBZ5256B	PMBZ5256B	PMST5088	PMST5088	PRF740	BUK457-400B
PMBZ5257B	PMBZ5257B	PMST5089	PMST5089	PRF840	BUK457-500B
PMLL4148	PMLL4148	PMST5401	PMST5401	PRF842	BUK457-500B
PMLL4150	PMLL4150	PMST5550	PMST5550	PRFZ40	BUK456-60A
PMLL4151	PMLL4151	PN2222	PN2222	PRFZ42	BUK455-60A
PMLL4153	PMLL4153	PN2222A	PN2222A	PT1940	BLF278
PMLL4446	PMLL4446	PN2369	PN2369	PT3537	BLW79

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
PT3571	BFR95	PTB32001X	PTB32001X	PZTA93	PZTA93
PT3571A	BFR95	PTB32003X	PTB32003X	Q2004L3	BT136X-500E
PT3960	BLV20	PTB32005X	PTB32005X	Q2004L4	BT136X-500F
PT4537	BLW79	PTB42001X	PTB42001X	Q2004R4	BT136-500E
PT4572A	BFQ34	PTB42002X	PTB42002X	Q2006L4	BT137X-500F
PT4574	BFR64	PTB42003X	PTB42003X	Q2006R4	BT136-500E
PT4578	BFR95	PTC4001T	PTC4001T	Q2006R4	BT137-500F
PT4579	BFR95	PTE081	BLW32	Q2008L4	BT137X-500F
PT5788	BLX14	PXT2222A	PXT2222A	Q2008R4	BT137-500F
PT6665A	BLW50F	PXT2907	PXT2907	Q2008R4	BT138-500F
PT8809	BLW79	PXT2907A	PXT2907A	Q2010L5	BT138X-500G
PT8810	BLU99	PXT3904	PXT3904	Q2010R4	BT139-500F
PT8811	BLW81	PXT3906	PXT3906	Q2010R5	BT138-500G
PT8811A	BLW81	PXT4401	PXT4401	Q2015R5	BT139-500G
PT8837	BLY88C/01	PXT4403	PXT4403	Q2015R5	BTA140-500
PT8851	BLV11	PXTA14	PXTA14	Q2025R5	BTA140-500
PT8852	BLW87	PXTA27	PXTA27	Q4004L3	BT136X-500E
PT8853	BLW85	PXTA42	PXTA42	Q4004L4	BT136X-500F
PT8862	BLW87	PXTA43	PXTA43	Q4004R4	BT136-500E
PT8863	BLW87	PXTA64	PXTA64	Q4006L4	BT137X-500F
PT8866	BFQ43	PXTA77	PXTA77	Q4006R4	BT136-500E
PT8870A	BLY88C/01	PXTA92	PXTA92	Q4006R4	BT137-500F
PT8871A	BLW79	PXTA93	PXTA93	Q4008L4	BT137X-500F
PT8873	BLV11	PY126	BY527	Q4008R4	BT137-500F
PT8873A	BLY88C/01	PY127	BY527	Q4008R4	BT138-500F
PT8873F	BLV11	PZ1418B15U	PZ1418B15U	Q4010L5	BT138X-500G
PT8874	BLW85	PZ1418B30U	PZ1418B30U	Q4010R4	BT139-500F
PT8874F	BLW85	PZ1721B12U	PZ1721B12U	Q4010R5	BT138-500G
PT8877	BFQ43	PZ1721B25U	PZ1721B25U	Q4015R5	BT139-500G
PT8880	BFR95	PZ2024B10U	PZ2024B10U	Q4015R5	BTA140-500
PT8881A	BLW79	PZ2024B20U	PZ2024B20U	Q4025R5	BTA140-500
PT9073B	BLW33	PZ2327B15U	PZ2327B15U	Q5004L3	BT136X-500E
PT9700	BLW89	PZB16035U	PZB16035U	Q5004L4	BT136X-500F
PT9701	BLV30	PZB16050U	PZB16050U	Q5004R4	BT136-500E
PT9701B	BLV30	PZFJ108	PZFJ108	Q5006L4	BT137X-500F
PT9702	BLV31	PZFJ109	PZFJ109	Q5006R4	BT136-500E
PT9702B	BLV31	PZFJ110	PZFJ110	Q5006R4	BT137-500F
PT9702B	BLX94O	PZT2222	PZT2222	Q5008L4	BT137X-500F
PT9704	BLX94A	PZT2222A	PZT2222A	Q5008R4	BT137-500F
PT9704B	BLX94A	PZT2907	PZT2907	Q5008R4	BT138-500F
PT9730	BLV20	PZT2907A	PZT2907A	Q5010L5	BT138X-500G
PT9731	BLY93A	PZT3904	PZT3904	Q5010R4	BT139-500F
PT9732	BLV20	PZT3906	PZT3906	Q5010R5	BT138-500G
PT9733	BLX39	PZT4401	PZT4401	Q5015R5	BT139-500G
PT9734	BLY93A	PZT4403	PZT4403	Q5015R5	BTA140-500
PT9780	BLW50F	PZTA05	PZTA05	Q5025R5	BTA140-500
PT9780A	BLX14	PZTA06	PZTA06	Q6004L3	BT136X-600E
PT9785	BLW99	PZTA13	PZTA13	Q6004L4	BT136X-600F
PT9790	BLW95	PZTA14	PZTA14	Q6004R4	BT136-600E
PT9794A	BLX94A	PZTA42	PZTA42	Q6006L5	BT137X-600G
PT9795	BLW87	PZTA43	PZTA43	Q6006R4	BT136-600E
PT9847	BLW99	PZTA55	PZTA55	Q6006R5	BT137-600G
PTB23001X	PTB23001X	PZTA56	PZTA56	Q6008L5	BT137X-600G
PTB23002U	PTB23002U	PZTA63	PZTA63	Q6008R4	BT138-600F
PTB23003X	PTB23003X	PZTA64	PZTA64	Q6008R5	BT137-600G
PTB23005X	PTB23005X	PZTA92	PZTA92	Q6010L5	BT138X-600G

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
Q6010R4	BT139-600F	RFH10N45	BUK437-500A	RG2M	BYV96E
Q6010R5	BT138-600G	RFH10N50	BUK437-500A	RG2Y	BYV27-100
Q6015R5	BT139-600G	RFH12N35	BUK437-400A	RG2Z	BYV27-200
Q6015R5	BTA140-600	RFH12N40	BUK437-400A	RG3A	BYW95A
Q6025R5	BTA140-600	RFH25N18	BUK436-200A	RG3B	BYW95A
Q7004L4	BT136X-700F	RFH25N20	BUK436-200A	RG3D	BYW95A
Q7006L5	BT137X-700G	RFH35N08	BUK436-100A	RG3G	BYW95B
Q7006R5	BT137-700G	RFH35N10	BUK436-100A	RG3J	BYW95C
Q7008L5	BT137X-700G	RFH45N05	BUK436-60B	RG3K	BYW96D
Q7008R5	BT137-700G	RFP10N12	BUK456-200B	RG3M	BYW96E
Q7010L5	BT138X-700G	RFP10N15	BUK456-200B	RG4	BYM36B
Q7010R5	BT138-700G	RFP12N08	BUK453-100B	RG4A	BYM36C
Q7015R5	BTA140-700	RFP12N08L	BUK553-100B	RG4A	BYW95A
Q7025R5	BTA140-700	RFP12N10	BUK453-100B	RG4B	BYW95A
Q8004L4	BT136X-800F	RFP12N10L	BUK553-100B	RG4C	BYM26E
Q8006L5	BT137X-800G	RFP12N18	BUK456-200B	RG4D	BYW95A
Q8006R5	BT137-800G	RFP12N20	BUK456-200B	RG4G	BYW95B
Q8008L5	BT137X-800G	RFP15N05	BUK452-60A	RG4J	BYW95C
Q8008R5	BT137-800G	RFP15N05L	BUK553-60B	RG4K	BYW96D
Q8010L5	BT138X-800G	RFP15N06	BUK452-60A	RG4M	BYW96E
Q8010R5	BT138-800G	RFP15N5	BUK456-200B	RG4Y	BYV28-100
Q8015R5	BTA140-800	RFP15N6	BUK456-200B	RG4Z	BYV28-200
Q8025R5	BTA140-800	RFP18N08	BUK455-100B	RGF1A	BYG60D
R10A	BYD33D	RFP18N10	BUK455-100B	RGF1B	BYG60D
R10B	BYD33D	RFP25N05	BUK455-60A	RGF1D	BYG60D
R10D	BYD33D	RFP25N6	BUK455-60B	RGF1G	BYG60G
R10G	BYD33G	RFP3N45	BUK454-500A	RGF1J	BYG60J
R10J	BYD33J	RFP3N50	BUK454-500A	RGF1K	BYG60K
R10K	BYD33K	RFP4N35	BUK454-400A	RGF1M	BYG60M
R10M	BYD33M	RFP4N40	BUK454-400A	RGL34A	BYD37D
R30A	BYW95A	RFP6N45	BUK455-500A	RGL34B	BYD37D
R30B	BYW95A	RFP6N50	BUK455-500A	RGL34D	BYD37D
R30D	BYW95A	RFP7N35	BUK455-400A	RGL34G	BYD37G
R30G	BYW95B	RFP7N40	BUK455-400A	RGL34J	BYD37J
R30J	BYW95C	RFP7N45	BUK455-400B	RGL41A	BYD37D
R30K	BYW96D	RFP8N18	BUK454-200A	RGL41B	BYD37D
R30M	BYW96E	RFP8N18L	BUK554-200A	RGL41D	BYD37D
R710XPT	BYV72E-50	RFP8N20	BUK454-200A	RGL41G	BYD37G
R711XPT	BYV72E-100	RFP8N20L	BUK554-200A	RGL41J	BYD37J
R712XPT	BYV72E-200	RG1A	BYD33D	RGL41K	BYD37K
R714XPT	BYV74-400	RG1B	BYD33D	RGL41M	BYD37M
RB100A	1N5819	RG1C	BYV26E	RGP02-12E	BYD43-16
RB160L-40	BYG90-40	RG1D	BYD33D	RGP02-14E	BYD43-16
RC2	BYD43-20	RG1G	BYD33G	RGP02-16E	BYD43-16
RD8.2M	BZX84C8V2	RG1J	BYD33J	RGP02-18E	BYD43-18
RF1	BYD33G	RG1K	BYD33K	RGP02-20E	BYD43-20
RF1003	BLV11	RG1M	BYD33M	RGP10A	BYD33D
RF105	BLW99	RG2	BYD74G	RGP10B	BYD33D
RF110	BLW99	RG2	BYV27-400	RGP10D	BYD33D
RF1A	BYD33J	RG2A	BYV36C	RGP10G	BYD33G
RF1B	BYD33K	RG2A	BYV95A	RGP10J	BYD33J
RF1Z	BYD33D	RG2B	BYV95A	RGP10K	BYD33K
RF2144	BLW85	RG2D	BYV95A	RGP10M	BYD33M
RF221	BLV11	RG2G	BYV95B	RGP15A	BYV95A
RF23	BLW85	RG2J	BYV95C	RGP15B	BYV95A
RF46	BLW87	RG2K	BYV96D	RGP15D	BYV95A

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
RGP15G	BYV95B	RH1C	BYV96E	RLR4001	PRLL4001
RGP15J	BYV95C	RH1Z	BYV95A	RLR4002	PRLL4002
RGP15K	BYV96D	RH2F	BY228	RLR4003	BYD17D
RGP15M	BYV96E	RH4F	BY228	RLR4004	BYD17G
RGP20A	BYW95A	RK13	1N5821ID	RLS139	BAV101
RGP20B	BYW95A	RK14	1N5822ID	RM1	1N5060
RGP20D	BYW95A	RL101	1N4001ID	RM10	BYM56B
RGP20G	BYW95B	RL101F	BYV95A	RM10A	BYM56C
RGP20J	BYW95C	RL102	1N4002ID	RM10B	BYM56D
RGP25A	BYW95A	RL102F	BYV95A	RM10Z	BYM56A
RGP25B	BYW95A	RL103	1N4003ID	RM11	BYM56B
RGP25D	BYW95A	RL103F	BYV95A	RM11A	BYM56C
RGP25G	BYW95B	RL104	1N4004ID	RM11B	BYM56D
RGP25J	BYW95C	RL104F	BYV95B	RM11C	BYM56E
RGP25K	BYW96D	RL105	1N4005ID	RM1A	1N5061
RGP25M	BYW96E	RL105F	BYV95C	RM1B	1N5062
RGP30A	BYW95A	RL106	1N4006ID	RM1C	BYW56
RGP30B	BYW95A	RL106F	BYV96D	RM1D	BY458
RGP30D	BYW95A	RL107	1N4007ID	RM1E	BY448
RGP30G	BYW95B	RL107F	BYV96E	RM1F	BY448
RGP30J	BYW95C	RL151	1N5059	RM1Z	1N5059
RGP30K	BYW96D	RL152	1N5059	RM2	BYM56B
RGP30M	BYW96E	RL153	1N5059	RM2A	BYM56C
RGPP10A	BYD33D	RL154	1N5060	RM2B	BYM56D
RGPP10B	BYD33D	RL155	1N5061	RM2C	BYM56E
RGPP10D	BYD33D	RL156	1N5062	RM2Z	BYM56A
RGPP10F	BYV95B	RL157	BYW56	RM4001G	PRLL4001
RGPP10G	BYD33G	RL201	1N5059	RM4002G	PRLL4002
RGPP10H	BYV95C	RL202	1N5059	RM4003G	BYD17D
RGPP10J	BYD33J	RL203	1N5059	RM4004G	BYD17G
RGPP10K	BYD33K	RL204	1N5060	RMPG06A	BYD33D
RGPP10M	BYD33M	RL205	1N5061	RMPG06B	BYD33D
RGPP15A	BYV95A	RL206	1N5062	RMPG06D	BYD33D
RGPP15B	BYV95A	RL207	BYW56	RMPG06G	BYD33G
RGPP15D	BYV95A	RL251	BYM56A	RMPG06J	BYD33J
RGPP15G	BYV95B	RL252	BYM56A	RO2	BYM56B
RGPP15J	BYV95C	RL253	BYM56A	RO2A	BYM56C
RGPP15K	BYV96D	RL254	BYM56B	RO2B	BYM56D
RGPP15M	BYV96E	RL255	BYM56C	RO2C	BYM56E
RGPP20A	BYV95A	RL256	BYM56D	RO2Z	BYM56A
RGPP20B	BYV95A	RL257	BYM56E	RP1H	BYD43-20
RGPP20D	BYV95A	RL2Z	BYV27-200	RP30A	BYW95A
RGPP20G	BYV95B	RL2Z	BYV28-200	RP30B	BYW95A
RGPP20J	BYV95C	RL4Z	BYV28-200	RP30D	BYW95A
RGPP20K	BYV96D	RL500	BYM56A	RP30G	BYW95B
RGPP20M	BYV96E	RL501	BYM56A	RP30J	BYW95C
RGPP30A	BYW95A	RL502	BYM56A	RP30K	BYW96D
RGPP30B	BYW95A	RL504	BYM56B	RP30M	BYW96E
RGPP30D	BYW95A	RL506	BYM56C	RRF510	BUK453-100B
RGPP30G	BYW95B	RL508	BYM56D	RRF511	BUK453-60B
RGPP30J	BYW95C	RL510	BYM56E	RRF512	BUK453-100B
RGPP30K	BYW96D	RL850	BYW95A	RRF513	BUK453-60B
RGPP30M	BYW96E	RL851	BYW95A	RRF520	BUK453-100B
RH1	BYV95B	RL852	BYW95A	RRF521	BUK453-60B
RH1A	BYV95C	RL854	BYW95B	RRF522	BUK453-100B
RH1B	BYV96D	RL856	BYW95C	RRF523	BUK453-60B

Alphanumeric cross-reference

Industry type number	Philips type number
RRF530	BUK453-100B
RRF531	BUK453-100B
RRF532	BUK453-100B
RRF533	BUK453-100B
RRF540	BUK455-100A
RRF541	BUK455-100A
RRF542	BUK455-100B
RRF543	BUK455-100B
RRF610	BUK454-200B
RRF611	BUK454-200B
RRF612	BUK454-200B
RRF613	BUK454-200B
RRF620	BUK454-200B
RRF621	BUK454-200B
RRF622	BUK454-200B
RRF623	BUK454-200B
RRF630	BUK455-200A
RRF631	BUK455-200A
RRF632	BUK454-200B
RRF633	BUK454-200B
RRF641	BUK456-200B
RRF643	BUK456-200B
RRF720	BUK454-400A
RRF721	BUK454-400A
RRF722	BUK454-400B
RRF723	BUK454-400B
RRF730	BUK455-400B
RRF731	BUK455-400B
RRF732	BUK454-400B
RRF733	BUK454-400B
RRF820	BUK454-500B
RRF821	BUK454-500B
RRF822	BUK454-500B
RRF823	BUK454-500B
RRF830	BUK455-500B
RRF831	BUK455-500B
RRF832	BUK455-500B
RRF833	BUK455-500B
RS1	BYD33J
RS1A	BYD33J
RS1A	BYG60D
RS1B	BYD33K
RS1B	BYG60D
RS1C	BYD33M
RS1D	BYG60D
RS1G	BYG60G
RS1J	BYG60J
RS1K	BYG60K
RS1Z	BYD33G
RS4FS	BY228
RU1	BYD31G
RU1	BYD33G
RU1A	BYD31J
RU1A	BYD33J
RU1B	BYD31K
RU1B	BYD33K
RU1C	BYD31M
RU1C	BYD33M
RU1P	BYV26E
RU2	BYD33J
RU2AM	BYD33J
RU2AM	BYD33K
RU2B	BYD33K
RU2M	BYD33G
RU2M	BYD33J
RU2YX	BYV27-100
RU2YX	BYV36A
RU2Z	BYD33D
RU3	BYD33G
RU3	BYW95C
RU3A	BYD33J
RU3A	BYW96D
RU3AM	BYW95C
RU3AM	BYW96D
RU3M	BYW95B
RU3M	BYW95C
RU3YX	BYM36A
RU3YX	BYW95A
RU4	BYW95B
RU4	BYW95C
RU4A	BYW95C
RU4A	BYW96D
RU4AM	BYW95C
RU4B	BYW96D
RU4B	BYW96E
RU4C	BYW96E
RU4D	BY328
RU4DS	BY328
RU4M	BYW95B
RU4Y	BYW95A
RU4YX	BYM36A
RU4YX	BYV28-100
RU4Z	BYW95A
RU4Z	BYW96B
RURD810	BYV32E-100
RURD815	BYV32E-150
RURD820	BYV32E-200
RV3135B5X	RV3135B5X
RX1214B130Y	RX1214B130Y
RX1214B150W	RX1214B150W
RX1214B170W	RX1214B170W
RX1214B170Y	RX1214B170Y
RX1214B300Y	RX1214B300Y
RX1214B350Y	RX1214B350Y
RX1214B80W	RX1214B80W
RX2731B90W	RX2731B90W
RX3034B70W	RX3034B70W
RXB12350Y	RXB12350Y
RXT2222A	PXT2222A
RXT2907A	PXT2907A
RXT3904	PXT3904
RXT3906	PXT3906
RXTA14	PXTA14
RXTA64	PXTA64
RZ1214B35U	RZ1214B35U
RZ1214B35Y	RZ1214B35Y
RZ1214B65Y	RZ1214B65Y
RZ2731B16W	RZ2731B16W
RZ2731B32W	RZ2731B32W
RZ2731B48W	RZ2731B48W
RZ2731B60W	RZ2731B60W
RZ3135B14W	RZ3135B14W
RZ3135B28W	RZ3135B28W
RZ3135B42W	RZ3135B42W
RZ3135B50W	RZ3135B50W
RZB12050Y	RZB12050Y
RZB12100Y	RZB12100Y
RZB12250Y	RZB12250Y
S0308R	BT151-500R
S0312R	BT151-500R
S0316R	BT152-400R
S0402BH	BT150
S0402DH	BT150
S0410BH	BT151-500R
S0410DH	BT151-500R
S0410MH	BT151-650R
S0410NH	BT151-800R
S0506L	BT151X-500
S0508L	BT151X-500
S0508R	BT151-500R
S0510L	BT151X-500
S0510R	BT151-500R
S0512R	BT151-500R
S0516R	BT152-400R
S0525R	BT145-500R
S0610BH	BT151-500R
S0610DH	BT151-500R
S0610MH	BT151-650R
S0610NH	BT151-800R
S0810BH	BT151-500R
S0810DH	BT151-500R
S0810MH	BT151-650R
S0810NH	BT151-800R
S0F	BYV96E
S0M	BYW56
S1006L	BT151X-500
S1008L	BT151X-500
S1008R	BT151-500R
S100-12	BLW99
S1010BH	BT151-500R
S1010DH	BT151-500R
S1010L	BT151X-500
S1010MH	BT151-650R
S1010NH	BT151-800R
S1010R	BT151-500R
S1012R	BT151-500R
S1016R	BT152-400R
S1025R	BT145-500R

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
S1210BH	BT151-500R	S2061Q	BT150	S8008L	BT151X-800
S1210BH	BT152-400R	S2061Y	BT150	S8008R	BT151-800R
S1210DH	BT151-500R	S20F	BYD43-20	S8010L	BT151X-800
S1210DH	BT152-400R	S250-50	BLW96	S8010R	BT151-800R
S1210MH	BT151-650R	S2514BH	BT145-500R	S8012R	BT151-800R
S1210MH	BT152-600R	S2514DH	BT145-500R	S8016R	BT152-800R
S1210NH	BT151-800R	S2514MH	BT145-600R	S8025R	BT145-800R
S1210NH	BT152-800R	S2514NH	BT145-800R	S8F	BYV96D
S15F	BYD43-16	S2800A	BT151-500R	S8M	1N5062
S1612BH	BT152-400R	S2800B	BT151-500R	SAL1228	BFQ24
S1612DH	BT152-400R	S2800C	BT151-500R	SAL1404	BFQ162
S1612MH	BT152-600R	S2800D	BT151-500R	SAL1405	BFQ232
S1612NH	BT152-800R	S2800E	BT151-500R	SAL1424	BFT93
S180D	1N5059	S2800E	BT151-650R	SAL475	BFQ232
S181D	1N5059	S2800F	BT151-500R	SAL476	BFQ232
S1A	BYG50D	S2800M	BT151-650R	SAL538	BFQ232
S1A10F	BYV96E	S2800M	BT151-800R	SAL539	BFQ235
S1A1F	BYV36A	S2800N	BT151-800R	SAxx	BZW03-Cxx
S1A2F	BYV36A	S2800S	BT151-800R	SA-800	BFQ52
S1A3F	BYV36B	S2F	BYV95A	SB020	1N5817
S1A4F	BYV36B	S2M	1N5059	SB030	1N5818
S1A5F	BYV36C	S30-28	BLW83	SB040	1N5819
S1A6F	BYV36C	S380D	BYM56A	SB1035	PBYR1035
S1A8F	BYV96D	S381D	BYM56A	SB1040	PBYR1040
S1B	BYG50D	S3A10F	BYW96E	SB1045	PBYR1045
S1D	BYG50D	S3A5F	BYW95C	SB120	1N5817
S1G	BYG50G	S3A6F	BYW95C	SB130	1N5818
S1J	BYG50J	S3A8F	BYW96D	SB140	1N5819
S1K	BYG50K	S4006L	BT151X-500	SB1620	PBYR1535CT
S2006L	BT151X-500	S4008L	BT151X-500	SB1630	PBYR1535CT
S2008L	BT151X-500	S4008R	BT151-500R	SB1640	PBYR1540CT
S2008R	BT151-500R	S4010L	BT151X-500	SB3020	PBYR3035PT
S200-50	BLW96	S4010R	BT151-500R	SB3030	PBYR3035PT
S2010L	BT151X-500	S4012R	BT151-500	SB3040	PBYR3040PT
S2010R	BT151-500R	S4012R	BT151-500R	SB320	1N5820ID
S2012R	BT151-500R	S4016R	BT152-400R	SB330	1N5821ID
S2016R	BT152-400R	S4025R	BT145-500R	SB340	1N5822ID
S2025R	BT145-500R	S4F	BYV95B	SB820	PBYR735
S2060A	BT150	S4M	1N5060	SB830	PBYR735
S2060A	BT151-500R	S50-28	BLW50F	SB840	PBYR740
S2060B	BT150	S6000A	BT152-400R	SBP1020T	PBYR1535CT
S2060B	BT151-500R	S6000B	BT152-400R	SBP1030T	PBYR1535CT
S2060C	BT150	S6000D	BT152-400R	SBP1040T	PBYR1540CT
S2060C	BT151-500R	S6000M	BT152-600R	SC129B	BTA140-500
S2060D	BT150	S6000N	BT152-800R	SC129D	BTA140-500
S2060D	BT151-500R	S6006L	BT151X-650	SC129E	BTA140-500
S2060F	BT150	S6008L	BT151X-650R	SC129M	BTA140-600
S2060F	BT151-500R	S6008R	BT151-650R	SC141A	BT138-500G
S2060Q	BT150	S6010L	BT151X-650	SC141B	BT137-500G
S2060Y	BT150	S6010R	BT151-650R	SC141B	BT138-500G
S2060Y	BT151-500R	S6012R	BT151-650R	SC141C	BT138-500G
S2061A	BT150	S6016R	BT152-600R	SC141D	BT137-500G
S2061B	BT150	S6025R	BT145-600R	SC141D	BT138-500G
S2061C	BT150	S6F	BYV95C	SC141E	BT137-500G
S2061D	BT150	S6M	1N5061	SC141E	BT138-500G
S2061F	BT150	S8006L	BT151X-800	SC141M	BT137-600G

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
SC141M	BT138-500G	SD104	BAT85	SD1410-3	BLV93
SC141N	BT137-800G	SD1078	BLW50F	SD1412	BLV94
SC141N	BT138-800G	SD1088	BLU20/12	SD1412-3	BLV94
SC141S	BT138-800G	SD1089	BLU45/12	SD1416	BLV75/12
SC143B	BT137-500G	SD1095	BLV93	SD1418	BLV94CE
SC143B	BT138-500	SD1098	BLV95	SD1421	BLV95
SC143BX125	BT138-500F	SD1115-4	BFQ42	SD1422	BLU20/12
SC143D	BT137-500G	SD1127	BFQ43	SD1428	BLV45/12
SC143D	BT138-500	SD1131	BLX65	SD1429-3	BLU20/12
SC143DX125	BT138-500F	SD1133	BLV10	SD1430-3	BLV93
SC143E	BT138-550	SD1133-1	BLV10	SD1433	BLU10/12
SC143EX125	BT138-500F	SD1134	BLW79	SD1434	BLU45/12
SC143M	BT137-600G	SD1135	BLU99	SD1438	BLV80/28
SC143M	BT138-600	SD1135	BLW80	SD1444	BLX65
SC143MX125	BT138-600F	SD1136	BLW81	SD1444	BLX65E
SC146A	BT139-500G	SD1143	BLV10	SD1449	BLW99
SC146B	BT138-500G	SD1143	BLY87C	SD1461	BLX91A
SC146B	BT139-500G	SD1143-1	BLV11	SD1462	BLX91A
SC146C	BT139-500G	SD1147	BLV30	SD1465	BLX94A
SC146D	BT138-500G	SD1148	BLW33	SD1485-3	BLV97
SC146D	BT139-500G	SD1149	BLV31	SD1487	BLW99
SC146E	BT138-500G	SD1150	BLW80	SD1488	BLU30/12
SC146E	BT139-500G	SD1220-1	BLV20	SD1488	BLU45/12
SC146F	BT139-500G	SD1222-5	BLY92A	SD1490	BLV58
SC146M	BT138-600G	SD1222-6	BLY92A	SD1492	BLV62
SC146M	BT139-500G	SD1224-10	BLW83	SD1499-1	BLU60/12
SC146N	BT138-800G	SD1224-2	BLW86	SD1660	BLV948
SC146N	BT139-800G	SD1229-1	BLW87	SD1680	BLV948
SC146S	BT139-800G	SD1232	BFR95	SD1908	BLF246
SC149B	BT138-500G	SD1232	BFW16A	SD1912	BLF147
SC149B	BT139-500	SD1242-5	BLV20	SD1920	BLF177
SC149D	BT138-500G	SD1244-6	BLY92A	SD2100	BSD12
SC149D	BT139-500G	SD1245	BLW33	SD212DE	BSD212
SC149E	BT139-500G	SD1272	BLW31	SD213DE	BSD213
SC149M	BT138-600G	SD1274	BLW30	SD214DE	BSD214
SC149M	BT139-600G	SD1274	BLW31	SD215DE	BSD215
SC151B	BT139-500F	SD1274-1	BLV12	SDS2060Q	BT151-500R
SC151D	BT139-500F	SD1275	BLW40	SE3646	PN2907
SC151E	BT139-500G	SD1275-1	BLV13	SE4010	MPS6521
SC151M	BT139-600F	SD1278	BLW60C	SE6001	MPSA06
SD1006	BFR95	SD1295	BLW99	SE6002	2N5086
SD1007-1	BFR64	SD1300	BFY90	SEF520	BUK453-100B
SD1012-3	BLV10	SD1301	BFY90	SEF530	BUK453-100A
SD1013	BLY92A	SD1303	BFY90	SEF542	BUK455-100B
SD1013-3	BLY92A	SD1315	BFR64	SEF620	BUK454-200B
SD1014-1	BLV11	SD1316	BFR95	SEF630	BUK454-200A
SD1014-6	BLV11	SD1317	BFQ34	SEF632	BUK454-200B
SD1015	BLY93A	SD1330	BFQ66	SEF720	BUK454-400B
SD1018-15	BLW85	SD1331	BFG195	SEF730	BUK455-400B
SD1018-4	BLW85	SD1333	BFR96S	SEF732	BUK454-400A
SD1018-6	BLW85	SD1334	BFQ34T	SEF820	BUK454-500B
SD101A	BAT81	SD1401	BLV97	SEF830	BUK455-500B
SD101B	BAT82	SD1407	BLW77	SEF832	BUK454-500A
SD101C	BAT83	SD1407-8	BLW77	SEFH7N50	BUK437-500B
SD1020-6	BLX91A	SD1409	BLV91	SEFH8N40	BUK437-400B
SD1021	BLV10	SD1410	BLU99	SEFP25N05	BUK453-60A

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
SF10B41	BT152-500R	SFR105	BYV36C	SHV-10	BY8410
SF10D41	BT152-500R	SFR106	BYV36D	SHV-10K	BY8410
SF10G41	BT152-500R	SFR301	BYM36A	SHV-10UK	BY8510
SF10J41	BT152-650R	SFR302	BYM36A	SHV-12	BY8412
SF11	BYD73A	SFR303	BYM36A	SHV-12K	BY8412
SF12	BYD73B	SFR304	BYM36B	SHV-12UK	BY8512
SF13	BYD73C	SFR305	BYM36C	SHV-14	BY8414
SF14	BYD73D	SFR306	BYM36D	SHV-16	BY8416
SF15	BYD73F	SG15401	BYQ28E-50	SHV-16UK	BY8416
SF16	BYD73G	SG15402	BYQ28E-100	SHV-16UK	BY8516
SF21	BYV27-50	SG15403	BYQ28E-150	SHV-20	BY8420
SF22	BYV27-100	SG15404	BYQ28E-200	SHV-24	BY8424
SF23	BYV27-150	SGL41-20	PRLL5817	SI850	BYW95A
SF24	BYV27-200	SGL41-30	PRLL5818	SI851	BYW95A
SF25	BYV27-300	SGL41-40	PRLL5819	SI852	BYW95A
SF26	BYV27-400	SGS16DR05	BYV32E-50	SI854	BYW95B
SF301C	BYV72E-50	SGS16DR10	BYV32E-100	SI856	BYW95C
SF302C	BYV72E-100	SGS16DR15	BYV32E-150	SI910	BYW95A
SF303C	BYV72E-150	SGS16DR20	BYV32E-200	SI911	BYW95A
SF304C	BYV72E-200	SGSP311	BUK452-100B	SI912	BYW95A
SF31	BYV28-50	SGSP312	BUK453-100B	SI914	BYW95B
SF32	BYV28-100	SGSP317	BUK454-200B	SI916	BYW95C
SF33	BYV28-150	SGSP319	BUK454-500B	SI917	BYW96D
SF34	BYV28-200	SGSP322	BUK453-60B	SI918	BYW96E
SF35	BYV28-300	SGSP330	BUK454-500B	SK1004	PBYR1040
SF36	BYV28-400	SGSP331	BUK454-400B	SK1604	PBYR1540CT
SF3B41	BT151-500R	SGSP351	BUK453-100B	SK804	PBYR740
SF3D41	BT151-500R	SGSP352	BUK453-100B	SLP2020P	PBYR3035PT
SF3G41	BT151-500R	SGSP361	BUK453-100A	SLP2030P	PBYR3035PT
SF3J41	BT151-650R	SGSP362	BUK455-100A	SLP2035P	PBYR3035PT
SF5B41	BT151-500R	SGSP364	BUK455-500B	SLP2040P	PBYR3040PT
SF5D41	BT151-500R	SGSP365	BUK455-400B	SLP2045P	PBYR3045PT
SF5G41	BT151-500R	SGSP367	BUK455-200B	SM12D41	BT138-500G
SF5J41	BT151-650R	SGSP369	BUK455-500B	SM12D45	BT138-500F
SF8B41	BT152-500R	SGSP382	BUK455-60B	SM12D45A	BT138-500E
SF8D41	BT152-500R	SGSP471	BUK436-100B	SM12DZ46	BT138F-500F
SF8G41	BT152-500R	SGSP474	BUK437-500A	SM12DZ46A	BT138F-500E
SF8J41	BT152-650R	SGSP475	BUK437-400B	SM12G41	BT138-500G
SFPL-52	BYD77D	SGSP477	BUK436-200A	SM12G45	BT138-500F
SFPL-52	BYG80D	SGSP479	BUK437-500A	SM12G45A	BT138-500E
SFPL-62	BYD77D	SGSP482	BUK436-60B	SM12GZ46	BT138F-500F
SFPL-62	BYG80D	SGSP492	BUK436-60B	SM12GZ46A	BT138F-500E
SFPM-52	BYD17D	SHV16U	BY721	SM12J41	BT138-600G
SFPM-52	BYG50D	SHV-02	BY505	SM12J45	BT138-600F
SFPM-54	BYD17G	SHV-03	BY8404	SM12J45A	BT138-600E
SFPM-54	BYG50G	SHV-06	BY8406	SM12JZ46	BT138F-600F
SFPM-62	BYD17D	SHV-06	BY8408	SM12JZ46A	BT138F-600E
SFPM-62	BYG50D	SHV-06NK	BY8406	SM20	BYX120G
SFPM-64	BYD17G	SHV-06NK	BY8408	SM25	BYX120G
SFPM-64	BYG50G	SHV-06UNK	BY8506	SM30	BYX120G
SFPZ-68	BZD27-C68	SHV-06UNK	BY8508	SM4001	PRLL4001
SFR0	BYV36E	SHV-08	BY8408	SM4002	PRLL4002
SFR101	BYV36A	SHV-08NK	BY8408	SM4003	BYD17D
SFR102	BYV36A	SHV-08UNK	BY8508	SM4004	BYD17G
SFR103	BYV36A	SHV-08X	BY8508	SM4005	BYD17J
SFR104	BYV36B	SHV-08XN	BY8508	SM4006	BYD17K

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
SM4933	BYD37D	SMBYW02-200	BYG80D	SRP10J	BYD33J
SM4934	BYD37D	SMBYW02-50	BYG80A	SRP10K	BYD33K
SM4935	BYD37D	SMD3010001	BAS16	SRP300A	BYM36A
SM4936	BYD37G	SMD3010002	BAV70	SRP300B	BYM36A
SM4937	BYD37J	SMD3010003	BAV99	SRP300D	BYM36A
SM6D45	BT137-500F	SMD3010004	BAW56	SRP300G	BYM36B
SM6D45A	BT137-500E	SMD3020001	BZX84C5V1	SRP300J	BYM36C
SM6DZ46	BT137F-500F	SMD3020002	BZX84C5V6	SRP300K	BYM36D
SM6DZ46A	BT137F-500E	SMD3020003	BZX84C6V2	SRP30A	BYW95A
SM6G45	BT137-500F	SMD3020004	BZX84C6V8	SRP30B	BYW95A
SM6G45A	BT137-500E	SMD3020005	BZX84C7V5	SRP30D	BYW95A
SM6GZ46	BT137F-500F	SMD3020006	BZX84C12	SRP30G	BYW95B
SM6GZ46A	BT137F-500E	SMD4010001	BSR14	SRP30J	BYW95C
SM6J45	BT137-600F	SMD4010002	BSR15	SRP30K	BYW96D
SM6J45A	BT137-600E	SMD4010003	BSR16	SS12	BYG90-20
SM6JZ46	BT137F-600F	SMD4010004	BSR17A	SS13	BYG90-30
SM6JZ46A	BT137F-600E	SMD4010005	BSR18A	SS14	BYG90-40
SM8D41	BT137-500G	SMD4010006	BFS17	SSB3020CT	PBYR3035PT
SM8D45	BT137-500F	SMD4010007	BCX70	SSB3030CT	PBYR3035PT
SM8D45A	BT137-500E	SMD4010008	BCX71	SSB3040CT	PBYR3040PT
SM8DZ46	BT137F-500F	SO2222	PMBT2222	SSB3045CT	PBYR3045PT
SM8DZ46A	BT137F-500E	SO2222A	PMBT2222A	SSH6N60	BUK437-600B
SM8G41	BT137-500G	SO2369	PMBT2369	SSH8N60	BUK437-600B
SM8G45	BT137-500F	SO2907	PMBT2907	SSP6N55	BUK455-600A
SM8G45A	BT137-500E	SO2907A	PMBT2907A	SSP6N60	BUK455-600A
SM8GZ46	BT137F-500F	SO3904	PMBT3904	SST111	PMBFJ111
SM8GZ46A	BT137F-500E	SO3906	PMBT3906	SST112	PMBFJ112
SM8J41	BT137-600G	SO5401	PMBT5401	SST113	PMBFJ113
SM8J45	BT137-600F	SO5550	PMBT5550	SST174	PMBFJ174
SM8J45A	BT137-600E	SR1002	PBYR1635	SST175	PMBFJ175
SM8JZ46	BT137F-600F	SR1003	PBYR1635	SST176	PMBFJ176
SM8JZ46A	BT137F-600E	SR1004	PBYR1640	SST177	PMBFJ177
SMAJxxx	BZG04-xxx	SR120	1N5817	SST201	BFT46
SMBF1026	BST82	SR130	1N5818	SST202	BFR31
SMBT2222	PMBT2222	SR140	1N5819	SST203	BFR30
SMBT2222A	PMBT2222A	SR3002C	PBYR3035PT	SST213	BSS83
SMBT2907	PMBT2907	SR3003C	PBYR3035PT	SST308	PMBFJ308
SMBT2907A	PMBT2907A	SR3004C	PBYR3040PT	SST309	PMBFJ309
SMBT3904	PMBT3904	SR32	BYV28-100	SST310	PMBFJ310
SMBT3906	PMBT3906	SR710CT	BYV72-50	SST4391	PMBF4391
SMBTA05	PMBTA05	SR711CT	BYV72-100	SST4392	PMBF4392
SMBTA06	PMBTA06	SR712CT	BYV72-200	SST4393	PMBF4393
SMBTA13	PMBTA13	SR714CT	BYV74-400	SST4416	PMBF4416
SMBTA14	PMBTA14	SR802	PBYR1035	SST4856	BSR56
SMBTA42	PMBTA42	SR803	PBYR1035	SST4857	BSR57
SMBTA43	PMBTA43	SR804	PBYR1040	SST4858	BSR58
SMBTA56	PMBTA56	SRP100A	BYV36A	SST4859	BSR56
SMBTA63	PMBTA63	SRP100B	BYV36A	SST4860	BSR57
SMBTA64	PMBTA64	SRP100D	BYV36A	SST4861	BSR58
SMBTA92	PMBTA92	SRP100G	BYV36B	STLT19	BUK452-60B
SMBTA93	PMBTA93	SRP100J	BYV36C	STLT20	BUK452-60A
SMBYT01-200	BYG80D	SRP100K	BYV36D	STLT29	BUK453-60A
SMBYT01-300	BYG80F	SRP10A	BYD33D	SUF15G	BYM26B
SMBYT01-400	BYG80G	SRP10B	BYD33D	SUF15J	BYM26C
SMBYW02-100	BYG80B	SRP10D	BYD33D	SUF4001	BYD73A
SMBYW02-150	BYG80C	SRP10G	BYD33G	SUF4002	BYD73B

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
SUF4003	BYD73D	T0612NJ	BT137X-800	T1013BH	BT138-500G
SUF4004	BYD73G	T0809BH	BT137-500D	T1013BH	BT139-500G
SUF5400	BYV28-50	T0809DH	BT137-500D	T1013BJ	BT138X-500G
SUF5401	BYV28-100	T0809MH	BT137-600D	T1013DH	BT138-500G
SUF5402	BYV28-200	T0810BH	BT137-500E	T1013DH	BT139-500G
SUF5403	BYM26B	T0810BH	BT138-500E	T1013DJ	BT138X-500G
SUF5403	BYV28-300	T0810BJ	BT137X-500E	T1013MH	BT138-600G
SUF5404	BYM26B	T0810DH	BT137-500E	T1013MH	BT139-600G
SUF5404	BYV28-400	T0810DH	BT138-500E	T1013MJ	BT138X-600G
SUR3005CT	BYV72E-50	T0810DJ	BT137X-500E	T1013NH	BT138-800G
SUR3010CT	BYV72E-100	T0810MH	BT137-600E	T1013NH	BT139-800G
SUR3015CT	BYV72E-150	T0810MH	BT138-600E	T1013NJ	BT138X-800G
SUR3020CT	BYV72E-200	T0810MJ	BT137X-600E	T110-400F	BT134W-500E
SUR3030CT	BYV74-300	T0810NH	BT137-800E	T110-600F	BT134W-600E
SUR3040CT	BYV74-400	T0810NH	BT138-800E	T1210BH	BT138-500E
SUR3050CT	BYV74-500	T0810NJ	BT137X-800E	T1210BH	BT139-500
SXxxx	BZW03-Cxxx	T0812BH	BT137-500	T1210DH	BT138-500E
T0409BJ	BT136X-500D	T0812BH	BT138-500	T1210DH	BT139-500
T0409DJ	BT136X-500D	T0812BJ	BT137X-500	T1210MH	BT138-600E
T0409MJ	BT136X-600D	T0812DH	BT137-500	T1210MH	BT139-600
T0410BJ	BT136X-500E	T0812DH	BT138-500	T1210NH	BT138-800E
T0410DJ	BT136X-500E	T0812DJ	BT137X-500	T1210NH	BT139-800
T0410MJ	BT136X-600E	T0812MH	BT137-600	T1212BH	BT138-500
T0410NJ	BT136X-800E	T0812MH	BT138-600	T1212BH	BT139-500G
T0509BH	BT137-500D	T0812MJ	BT137X-600	T1212BJ	BT138X-500
T0509DH	BT137-500D	T0812NH	BT137-800	T1212DH	BT138-500
T0509MH	BT137-600D	T0812NH	BT138-800	T1212DH	BT139-500G
T0510BH	BT137-500E	T0812NJ	BT137X-800	T1212DJ	BT138X-500
T0510DH	BT137-500E	T0813BJ	BT137X-500G	T1212MH	BT138-600
T0510MH	BT137-600E	T0813DJ	BT137X-500G	T1212MH	BT139-600G
T0510NH	BT137-800E	T0813MJ	BT137X-600G	T1212MJ	BT138X-600
T0512BH	BT137-500	T0813NJ	BT137X-800G	T1212NH	BT138-800
T0512DH	BT137-500	T1010BH	BT138-500E	T1212NH	BT139-800G
T0512MH	BT137-600	T1010BH	BT139-500E	T1212NJ	BT138X-800
T0512NH	BT137-800	T1010BJ	BT138X-500E	T1213BH	BT138-500G
T0609BH	BT137-500D	T1010DH	BT138-500E	T1213BJ	BT138X-500G
T0609BJ	BT137X-500D	T1010DH	BT139-500E	T1213DH	BT138-500G
T0609DH	BT137-500D	T1010DJ	BT138X-500E	T1213DJ	BT138X-500G
T0609DJ	BT137X-500D	T1010MH	BT138-600E	T1213MH	BT138-600G
T0609MH	BT137-600D	T1010MH	BT139-600E	T1213MJ	BT138X-600G
T0609MJ	BT137X-600D	T1010MJ	BT138X-600E	T1213NH	BT138-800G
T0610BH	BT137-500E	T1010NH	BT138-800E	T1213NJ	BT138X-800G
T0610BJ	BT137X-500E	T1010NH	BT139-800E	T15101	2N5551
T0610DH	BT137-500E	T1010NJ	BT138X-800E	T15109	PN2222
T0610DJ	BT137X-500E	T1012BH	BT138-500	T15111	PN2222A
T0610MH	BT137-600E	T1012BH	BT139-500	T15112	PN2907
T0610MJ	BT137X-600E	T1012BJ	BT138X-500	T1512BJ	BT139X-500
T0610NH	BT137-800E	T1012DH	BT138-500	T1512DJ	BT139X-500
T0610NJ	BT137X-800E	T1012DH	BT139-500	T1512MJ	BT139X-600
T0612BH	BT137-500	T1012DJ	BT138X-500	T1512NJ	BT139X-800
T0612BJ	BT137X-500	T1012MH	BT138-600	T1513BJ	BT139X-500G
T0612DH	BT137-500	T1012MH	BT139-600	T1513DJ	BT139X-500G
T0612DJ	BT137X-500	T1012MJ	BT138X-600	T1513MJ	BT139X-600G
T0612MH	BT137-600	T1012NH	BT138-800	T1513NJ	BT139X-800G
T0612MJ	BT137X-600	T1012NH	BT139-800	T1590	2N4401
T0612NH	BT137-800	T1012NJ	BT138X-800	T1590M	2N4401

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
T1591	2N4403	T2801C	BT138-500G	TG4	BYV36B
T1591M	2N4403	T2801D	BT137-500G	TG6	BYV36C
T1592	2N4401	T2801D	BT138-500G	TG8	BYV36D
T1592M	2N4401	T2801E	BT138-500G	TG84	BYV29-400
T1593	2N4403	T2801F	BT138-500G	TG86	BYR29-600
T1593M	2N4403	T2801M	BT137-600G	TGL41-10	BZD27-C10
T1599	MPSA06	T2801M	BT138-600G	TGL41-100	BZD27-C100
T1612BH	BT139-500	T2801N	BT137-800G	TGL41-100A	BZD27-C100
T1612DH	BT139-500	T2801N	BT138-800G	TGL41-10A	BZD27-C10
T1612MH	BT139-600	T2801S	BT138-800G	TGL41-11	BZD27-C11
T1612NH	BT139-800	T2802A	BT137-500G	TGL41-110	BZD27-C110
T1613BH	BT139-500G	T2802A	BT138-500	TGL41-110A	BZD27-C110
T1613BH	BTA140-500	T2802B	BT137-500G	TGL41-11A	BZD27-C11
T1613DH	BT139-500G	T2802B	BT138-500	TGL41-12	BZD27-C12
T1613DH	BTA140-500	T2802C	BT137-500G	TGL41-120	BZD27-C120
T1613MH	BT139-600G	T2802C	BT138-500	TGL41-120A	BZD27-C120
T1613MH	BTA140-600	T2802D	BT137-500G	TGL41-12A	BZD27-C12
T1613NH	BT139-800G	T2802D	BT138-500	TGL41-13	BZD27-C13
T1613NH	BTA140-800	T2802E	BT137-500G	TGL41-130	BZD27-C130
T2500B	BT137-500F	T2802E	BT138-500	TGL41-130A	BZD27-C130
T2500BFP	BT137F-500F	T2802F	BT138-500	TGL41-13A	BZD27-C13
T2500D	BT137-500F	T2802M	BT137-600G	TGL41-15	BZD27-C15
T2500DFP	BT137F-500F	T2802M	BT138-600	TGL41-150	BZD27-C150
T2500E	BT137-500F	T2802N	BT137-800G	TGL41-150A	BZD27-C150
T2500M	BT137-600F	T2802S	BT138-800	TGL41-15A	BZD27-C15
T2500MFP	BT137F-600F	T6000B	BT139-500	TGL41-16	BZD27-C16
T2500N	BT137-800F	T6000B	BTA140-500	TGL41-160	BZD27-C160
T2500NFP	BT137F-800F	T6000D	BT139-500	TGL41-160A	BZD27-C160
T2500S	BT137-800F	T6000D	BTA140-500	TGL41-16A	BZD27-C16
T2506B	BT137-500D	T6000M	BT139-600	TGL41-18	BZD27-C18
T2506D	BT137-500D	T6000M	BTA140-600	TGL41-180	BZD27-C180
T2512BH	BTA140-500	T6000N	BT139-800	TGL41-180A	BZD27-C180
T2512DH	BTA140-500	T6001B	BT139-500G	TGL41-18A	BZD27-C18
T2512MH	BTA140-600	T6001B	BTA140-500	TGL41-20	BZD27-C20
T2512NH	BTA140-800	T6001D	BT139-500G	TGL41-200	BZD27-C200
T2513BH	BTA140-500	T6001D	BTA140-500	TGL41-200A	BZD27-C200
T2513DH	BTA140-500	T6001M	BT139-600G	TGL41-20A	BZD27-C20
T2513MH	BTA140-600	T6001M	BTA140-600	TGL41-22	BZD27-C22
T2513NH	BTA140-800	T6001N	BT139-800G	TGL41-22A	BZD27-C22
T2800A	BT137-500F	T6006B	BT139-500G	TGL41-24	BZD27-C24
T2800A	BT138-500F	T6006B	BTA140-500	TGL41-24A	BZD27-C24
T2800B	BT137-500F	T6006D	BT139-500G	TGL41-27	BZD27-C27
T2800B	BT138-500F	T6006D	BTA140-500	TGL41-27A	BZD27-C27
T2800C	BT137-500F	T6006M	BT139-600G	TGL41-30	BZD27-C30
T2800C	BT138-500F	T6006M	BTA140-600	TGL41-30A	BZD27-C30
T2800D	BT137-500F	T6006N	BT139-800G	TGL41-33	BZD27-C33
T2800D	BT138-500F	TA212A	BUK453-100B	TGL41-33A	BZD27-C33
T2800E	BT137-500F	TA9212A	BUK453-100B	TGL41-36	BZD27-C36
T2800E	BT138-500F	TAN150H	MX0912B250Y	TGL41-36A	BZD27-C36
T2800F	BT138-500F	TAN250Y	MX0912B350Y	TGL41-39	BZD27-C39
T2800M	BT137-600F	TAN75A	MZ0912B100Y	TGL41-39A	BZD27-C39
T2800M	BT138-600F	TG10	BYV26E	TGL41-43	BZD27-C43
T2800N	BT137-800F	TG24	BYM36B	TGL41-43A	BZD27-C43
T2801A	BT138-500G	TG26	BYM36C	TGL41-47	BZD27-C47
T2801B	BT137-500G	TG28	BYM36D	TGL41-47A	BZD27-C47
T2801B	BT138-500G	TG284	BYV34-400	TGL41-51	BZD27-C51

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number
TGL41-51A	BZD27-C51
TGL41-56	BZD27-C56
TGL41-56A	BZD27-C56
TGL41-62	BZD27-C62
TGL41-62A	BZD27-C62
TGL41-68	BZD27-C68
TGL41-68A	BZD27-C68
TGL41-75	BZD27-C75
TGL41-75A	BZD27-C75
TGL41-7.5	BZD27-C7V5
TGL41-7.5A	BZD27-C7V5
TGL41-82	BZD27-C82
TGL41-82A	BZD27-C82
TGL41-8.2	BZD27-C8V2
TGL41-8.2A	BZD27-C8V2
TGL41-91	BZD27-C91
TGL41-91A	BZD27-C91
TGL41-9.1	BZD27-C9V1
TGL41-9.1A	BZD27-C9V1
TH416	BLW77
TH417	BLW77
TH430	BLW96
TH476	BLW89
TH478	BLW33
TH480	BLW33
TH518	BLX13
TH525	BLV31
TH526	BLX94A
TH552	BLW33
TH553	BLV31
TH562	BLW96
TH571	BLW83
TH598	BLW98
THA13	BLX13
THA15	BLW95
THA93	BLY93A
THB13	BLX13
THB94	BLW86
THY94	BLX39
TIC116A	BT151-500R
TIC116B	BT151-500R
TIC116C	BT151-500R
TIC116D	BT151-500R
TIC116E	BT151-500R
TIC116F	BT151-500R
TIC116M	BT151-650R
TIC116N	BT151-800R
TIC116S	BT151-800R
TIC126A	BT151-500R
TIC126B	BT151-500R
TIC126C	BT151-500R
TIC126D	BT151-500R
TIC126E	BT151-500R
TIC126F	BT151-500R
TIC126M	BT151-650R
TIC126N	BT151-800R
TIC126S	BT151-800R
TIC201A	BT136-500D
TIC201A	BT136-500E
TIC201B	BT136-500D
TIC201B	BT136-500E
TIC201C	BT136-500D
TIC201C	BT136-500E
TIC201D	BT136-500D
TIC201D	BT136-500E
TIC201E	BT136-500D
TIC201E	BT136-500E
TIC201M	BT136-600D
TIC201M	BT136-600E
TIC201N	BT136-800E
TIC206A	BT136-500D
TIC206B	BT136-500D
TIC206C	BT136-500D
TIC206D	BT136-500D
TIC206E	BT136-500D
TIC206M	BT136-600D
TIC216A	BT137-500D
TIC216B	BT137-500D
TIC216C	BT137-500D
TIC216D	BT137-500D
TIC216E	BT137-500D
TIC216M	BT137-600D
TIC225A	BT137-500D
TIC225A	BT138-500E
TIC225B	BT137-500D
TIC225B	BT138-500E
TIC225C	BT137-500D
TIC225C	BT138-500E
TIC225D	BT137-500D
TIC225D	BT138-500E
TIC225E	BT137-500D
TIC225E	BT138-500E
TIC225M	BT137-600D
TIC225M	BT138-600E
TIC225N	BT138-800E
TIC226A	BT137-500G
TIC226A	BT138-500G
TIC226B	BT137-500G
TIC226B	BT138-500G
TIC226C	BT137-500G
TIC226C	BT138-500G
TIC226D	BT137-500G
TIC226D	BT138-500G
TIC226E	BT137-500G
TIC226E	BT138-500G
TIC226M	BT137-600G
TIC226M	BT138-600G
TIC226N	BT137-800G
TIC226N	BT138-800G
TIC226N	BT139-800G
TIC226S	BT137-700G
TIC236A	BT138-500G
TIC236B	BT138-500G
TIC236C	BT138-500G
TIC236D	BT138-500G
TIC236E	BT138-500G
TIC236M	BT138-600G
TIC236N	BT138-800G
TIC236S	BT138-700G
TIC246A	BT139-500G
TIC246B	BT139-500G
TIC246C	BT139-500G
TIC246D	BT139-500G
TIC246E	BT139-500G
TIC246M	BT139-600G
TIC246N	BT139-800G
TIC246S	BT139-600G
TIC246S	BT139-700G
TIC253A	BT138-500G
TIC253B	BT138-500G
TIC253C	BT138-500G
TIC253D	BT138-500G
TIC253E	BT138-500G
TIC253M	BT138-600G
TIC253N	BT138-800G
TIC263A	BT139-500G
TIC263B	BT139-500G
TIC263C	BT139-500G
TIC263D	BT139-500G
TIC263E	BT139-500G
TIC263M	BT139-600G
TIC263N	BT139-800G
TIC263S	BT139-600G
TIS47	PN2369A
TIS48	PN2369A
TIS49	PN2369A
TIS51	PN2369A
TIS53	MPS3640
TMBT2484	BCX70J
TMPD2835	PMBD2835
TMPD2836	PMBD2836
TMPD2837	PMBD2837
TMPD2838	PMBD2838
TMPD6050	PMBD6050
TMPD6100	PMBD6100
TMPD6916	BAT54
TMPD7000	PMBD7000
TMPD914	PMBD914
TMPF4091	PMBF4391
TMPF4092	PMBF4392
TMPF4093	PMBF4393
TMPF4391	PMBF4391
TMPF4392	PMBF4392
TMPF4393	PMBF4393
TMPFB246A	BSR56
TMPFB246B	BSR57
TMPFB246C	BSR58
TMPFJ111	PMBFJ111

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
TMPFJ112	PMBFJ112	TP2314	BFQ43	TRF559	BLU98
TMPFJ113	PMBFJ113	TP2330	BLW30	TRW2001	PTB23001X
TMPFJ174	PMBFJ174	TP2330F	BLV12	TRW2003	PTB23003X
TMPFJ175	PMBFJ175	TP2505	BLU99	TRW2005	PTB23005X
TMPFJ176	PMBFJ176	TP2510	BLW81	TRW2010	PVB42004X
TMPFJ177	PMBFJ177	TP3004	BLV100	TRW2015	PZ1721B12U
TMPG06-xxx	BZT03-Cxxx	TP3009	BLV90	TRW2020	PZ1721B25U
TMPT2221	PMBT2222	TP3009S	BLV90/SL	TRW2301	PTB23001X
TMPT2221A	PMBT2222A	TP3010	BLV91	TRW2304	PTB23003X
TMPT2222	PMBT2222	TP3010S	BLV91/SL	TRW2307	PTB23005X
TMPT2222A	PMBT2222A	TP3011	BLU99	TRW3001	PTB32001X
TMPT2906	PMBT2907	TP3011S	BLU99/SL	TRW3003	PTB32003X
TMPT2906A	PMBT2907A	TP3013	BLV92	TRW3005	PTB32005X
TMPT2907	PMBT2907	TP3022	BLV98CE	TRW3301	PTB32001X
TMPT2907A	PMBT2907A	TP3031	BLV97CE	TRW52101	LWE2015R
TMPT3903	PMBT3903	TP3060	BLV101A	TRW52601	LTE21015R
TMPT3904	PMBT3904	TP3061	BLV101B	TRW53102	LWE2015R
TMPT3905	PMBT3906	TP312	BFR96S	TRW53601	LTE42005S
TMPT3906	PMBT3906	TP3400	BFQ34	TRW53602	LTE21015R
TMPT4401	PMBT4401	TP3401	BFQ135	TRW53605	LVE21050R
TMPT4402	PMBT4403	TP3401S	BFQ135	TRW54601	LTE42005S
TMPT4403	PMBT4403	TP3402	BFQ270	TS120-400F	BT148W-400R
TMPT5086	BCF29	TP3638A	MPS6534	TS120-600F	BT148W-600R
TMPT5087	BCF30	TP387	BLV33F	TSMA10	BZG04-8V2
TMPT5088	PMBT5088	TP390	BFW92A	TSMA100	BZG04-82
TMPT5089	BCF33	TP393	BFR91	TSMA11	BZG04-9V1
TMPT5401	PMBT5401	TP394	BFQ34T	TSMA110	BZG04-91
TMPT5550	PMBT5550	TP394A	BLV31	TSMA12	BZG04-10
TMPT5551	PMBT5551	TP4123	2N4123	TSMA120	BZG04-100
TMPT6427	PMBT6427	TP4124	2N4124	TSMA13	BZG04-11
TMPT6428	PMBT6428	TP4125	2N4125	TSMA130	BZG04-110
TMPT6429	PMBT6429	TP4126	2N4126	TSMA15	BZG04-12
TMPTA05	PMBTA05	TP491	BFR91	TSMA150	BZG04-120
TMPTA06	PMBTA06	TP8828	BLY87C	TSMA16	BZG04-13
TMPTA13	PMBTA13	TP9383	BLV25	TSMA160	BZG04-130
TMPTA14	PMBTA14	TPS6414	MPS6514	TSMA18	BZG04-15
TMPTA20	PMBTA20	TPS6415	MPS6515	TSMA180	BZG04-150
TMPTA42	PMBTA42	TPS6418	MPS6518	TSMA20	BZG04-16
TMPTA43	PMBTA43	TPSMAxxx	BZG04-xxx	TSMA200	BZG04-160
TMPTA55	PMBTA55	TPV1325B	BLF378	TSMA22	BZG04-18
TMPTA56	PMBTA56	TPV3004	BLV103	TSMA24	BZG04-20
TMPTA63	PMBTA63	TPV3100	BLV36	TSMA27	BZG04-22
TMPTA64	PMBTA64	TPV376	BLV33	TSMA30	BZG04-24
TMPTA92	PMBTA92	TPV385	BLV33F	TSMA33	BZG04-27
TMPTA93	PMBTA93	TPV387	BLV33F	TSMA36	BZG04-30
TMPZ5230	PMBZ5230B	TPV394A	BLV31	TSMA39	BZG04-33
TP1940	BLF278	TPV5055B	BLV59	TSMA43	BZG04-36
TP2007A	BFQ43	TPV593	BLW34	TSMA47	BZG04-39
TP2031	BFQ43	TPV595	BLV57	TSMA51	BZG04-43
TP2032F	BLV10	TPV596	BLW32	TSMA56	BZG04-47
TP2033	BLW30	TPV597	BLW33	TSMA62	BZG04-51
TP2034	BLW40	TPV598	BLW98	TSMA68	BZG04-56
TP2034F	BLV13	TPV657	BLV57	TSMA75	BZG04-62
TP2180	BLV75/12	TPV693	BLW34	TSMA82	BZG04-68
TP2304	BLW60C	TPV695A	BLV57	TSMA91	BZG04-75
TP2306	BFQ42	TPV7525	BLV58	TT0510BH	BT137-500E

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
TXC1080	BT137-800G	TXD10K60P	BT138-600G	TYN112	BT151-500R
TXC1080M	BT137-800G	TXD10K70	BT137-700G	TYN116	BT152-400R
TXC10H60	BT136-600E	TXD10K70	BT138-800G	TYN204	BT151-500R
TXC10H60	BT137-600F	TXD10K70M	BT138-700G	TYN206	BT151-500R
TXC10H60M	BT137-600E	TXD10K70M	BT138-800G	TYN208	BT151-500R
TXC10H60M	BT137-600F	TXD10K70P	BT138-700G	TYN210	BT151-500R
TXC10H70	BT136-700E	TXD10K70P	BT138-800G	TYN212	BT151-500R
TXC10H70	BT137-800F	TXD10K80	BT137-800G	TYN216	BT152-400R
TXC10H70M	BT137-700E	TXD10K80	BT138-800G	TYN225	BT145-500R
TXC10H70M	BT137-800F	TXD10K80M	BT138-800G	TYN404	BT151-500R
TXC10K40	BT136-500G	TXD10K80P	BT138-800G	TYN406	BT151-500R
TXC10K40	BT137-500G	TXD10L40	BT137-500G	TYN408	BT151-500R
TXC10K40M	BT137-500G	TXD10L40	BT138-500G	TYN410	BT151-500R
TXC10K50	BT136-500G	TXD10L40M	BT138-500G	TYN412	BT151-500R
TXC10K50	BT137-500G	TXD10L40P	BT138-500G	TYN416	BT152-400R
TXC10K50M	BT137-500G	TXD10L60	BT137-600G	TYN425	BT145-500R
TXC10K60	BT136-600G	TXD10L60	BT138-600G	TYN604	BT151-650R
TXC10K60	BT137-600G	TXD10L60M	BT138-600G	TYN606	BT151-650R
TXC10K60M	BT137-600G	TXD10L60P	BT138-600G	TYN608	BT151-650R
TXC10K70	BT136-700G	TXD10L70	BT137-700G	TYN610	BT151-650R
TXC10K70	BT137-800G	TXD10L70	BT138-800G	TYN612	BT151-650R
TXC10K70M	BT137-700G	TXD10L70M	BT138-700G	TYN616	BT152-600R
TXC10K70M	BT137-800G	TXD10L70P	BT138-700G	TYN625	BT145-600R
TXC10K80	BT136-800G	TXD10L70P	BT138-800G	TYN804	BT151-800R
TXC10K80M	BT137-800G	TXN0512	BT151X-500	TYN806	BT151-800R
TXC10L60	BT136-600G	TXN058	BT151X-500	TYN808	BT151-800R
TXC10L60	BT137-600G	TXN108	BT151X-500	TYN810	BT151-800R
TXC10L60M	BT137-600G	TXN112	BT151X-500	TYN812	BT151-800R
TXC10L70	BT136-700G	TXN208	BT151X-500	TYN825	BT145-800R
TXC10L70	BT137-800G	TXN212	BT151X-500	TYS406-05	BT150
TXC10L70M	BT137-700G	TXN408	BT151X-500	TYS406-1	BT150
TXC10L70M	BT137-800G	TXN412	BT151X-500	TYS406-2	BT150
TXD1070M	BT138-800G	TXN608	BT151X-650	TYS406-4	BT150
TXD10H60	BT137-600E	TXN612	BT151X-650	U1897	2N4091
TXD10H60	BT138-600F	TXN808	BT151X-800	U1898	2N4092
TXD10H60M	BT138-600E	TXN812	BT151X-800	U1899	2N4093
TXD10H60M	BT138-600F	TXR1605TP	BYV32E-50	U1BC44	BYD17D
TXD10H60P	BT138-600E	TXR1610TP	BYV32E-100	U1BC44	BYG50D
TXD10H60P	BT138-600F	TXR1615TP	BYV32E-150	U1BZ41	BYD37D
TXD10H70	BT137-700E	TXR1620TP	BYV32E-200	U1BZ41	BYG50D
TXD10H70	BT138-800F	TXR3205TP	BYV72E-50	U1DC44	BYD17D
TXD10H70M	BT138-700E	TXR3210TP	BYV72E-100	U1DC44	BYG50D
TXD10H70M	BT138-800F	TXR3215TP	BYV72E-150	U1DZ41	BYD37D
TXD10H70P	BT138-700E	TXR3220TP	BYV72E-200	U1DZ41	BYG50D
TXD10H70P	BT138-800F	TXR805P	BYW29-50	U1GC44	BYD17G
TXD10K40	BT137-500G	TXR810P	BYW29-100	U1GC44	BYG50G
TXD10K40	BT138-500G	TXR815P	BYW29-150	U1GZ41	BYD37G
TXD10K40M	BT138-500G	TXR820P	BYW29-200	U1GZ41	BYG50G
TXD10K40P	BT138-500G	TYN0510	BT151-500R	U1JC44	BYD17J
TXD10K50	BT137-500G	TYN0512	BT151-500R	U1JC44	BYG50J
TXD10K50	BT138-500G	TYN0516	BT152-400R	U1JZ41	BYD37J
TXD10K50M	BT138-500G	TYN056	BT151-500R	U1JZ41	BYG50J
TXD10K50P	BT138-500G	TYN058	BT151-500R	U308	BFU308
TXD10K60	BT137-600G	TYN106	BT151-500R	U309	BFU309
TXD10K60	BT138-600G	TYN108	BT151-500R	U310	BFU310
TXD10K60M	BT138-600G	TYN110	BT151-500R	U311	BFU310

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
UC25	BYM36G	UFN522	BUK453-100B	UG4B	BYV28-100
UES1001	BYD73A	UFN523	BUK453-60B	UG4C	BYV28-150
UES1002	BYD73B	UFN530	BUK453-100B	UG4D	BYV28-200
UES1003	BYD73C	UFN531	BUK453-100B	UM1L40FT	BLF545
UES1101	BVY27-50	UFN532	BUK453-100B	UMIL10	BLW33
UES1101	BYV27-50	UFN533	BUK453-100B	UMIL3	BLW89
UES1102	BVY27-100	UFN540	BUK453-100A	UMOB-20	BLU20/12
UES1102	BYV27-100	UFN541	BUK453-100A	UMOB-30	BLU30/12
UES1103	BVY27-150	UFN542	BUK453-100A	UMOB-45	BLU45/12
UES1103	BYV27-150	UFN543	BUK453-100A	UMOB-55	BLU60/12
UES1104	BVY27-200	UFN610	BUK454-200B	USD620	PBYR735
UES1104	BYD73D	UFN611	BUK454-200B	USD620C	PBYR1535CT
UES1105	BYD73F	UFN612	BUK454-200B	USD635	PBYR735
UES1106	BYD73G	UFN613	BUK454-200B	USD635C	PBYR1535CT
UES1301	BYV28-50	UFN620	BUK454-200B	USD640C	PBYR1540CT
UES1302	BYV28-100	UFN621	BUK454-200B	USD645	PBYR745
UES1303	BYV28-150	UFN622	BUK454-200B	USD645C	PBYR1545CT
UES1304	BYV28-200	UFN623	BUK454-200B	USD720	PBYR735
UES1305	BYV28-300	UFN630	BUK455-200A	USD720C	BYV133-35
UES1306	BYV28-400	UFN631	BUK455-200A	USD735	PBYR735
UES1420	BYR29-600	UFN632	BUK454-200B	USD735C	BYV133-35
UES1501	BYV79E-50	UFN633	BUK454-200B	USD740	PBYR740
UES1502	BYV79E-100	UFN640	BUK456-200B	USD740C	BYV133-40
UES150350	BYV79E-150	UFN641	BUK456-200B	USD745	PBYR745
UES1504	BYV79E-200	UFN642	BUK456-200B	USD745C	BYV133-45
UES2401	BYV32E-50	UFN643	BUK456-200B	USD820	PBYR1035
UES2402	BYV32E-100	UFN710	BUK454-400B	USD835	PBYR1035
UES2403	BYV32E-150	UFN711	BUK454-400B	USD840	PBYR1040
UES2404	BYV32E-200	UFN712	BUK454-400B	USD845	PBYR1045
UF28100	BLF547	UFN713	BUK454-400B	USD920	PBYR1635
UF28150J	BLF548	UFN720	BUK454-400A	USD935	PBYR1635
UF2840G	BLF545	UFN722	BUK454-400B	USD940	PBYR1640
UF4001	BYD73A	UFN723	BUK454-400B	USD945	PBYR1645
UF4002	BYD73B	UFN730	BUK455-400B	UT2005	1N5059
UF4003	BYD73D	UFN731	BUK455-400B	UT2010	1N5059
UF4004	BYD73G	UFN732	BUK454-400B	UT2020	1N5059
UF4005	BYV26C	UFN733	BUK454-400B	UT2040	1N5060
UF4006	BYV26D	UFN742	BUK455-400B	UT2060	1N5061
UF4007	BYV26E	UFN743	BUK455-400B	UT234	BYD13D
UF5400	BYV28-50	UFN820	BUK454-500B	UT235	BYD13G
UF5401	BYV28-100	UFN821	BUK454-500B	UT236	BYD13D
UF5402	BYV28-200	UFN822	BUK454-500B	UT237	BYD13J
UF5403	BYM26B	UFN823	BUK454-500B	UT238	BYD13J
UF5403	BYV28-300	UFN830	BUK455-500B	UT242	BYD13D
UF5404	BYM26B	UFN831	BUK455-500B	UT244	BYD13G
UF5404	BYV28-400	UFN832	BUK455-500B	UT245	BYD13J
UF5405	BYM26C	UFN833	BUK455-500B	UT247	BYD13J
UF5406	BYM26C	UG1A	BYD73A	UT249	BYD13D
UF5407	BYM26D	UG1B	BYD73B	UT251	1N5059
UF5408	BYM26E	UG1C	BYD73C	UT252	1N5059
UFN510	BUK453-100B	UG1D	BYD73D	UT254	1N5060
UFN511	BUK453-60B	UG2A	BYV27-50	UT255	1N5061
UFN512	BUK453-100B	UG2B	BYV27-100	UT257	1N5061
UFN513	BUK453-60B	UG2C	BYV27-150	UT258	1N5062
UFN520	BUK453-100B	UG2D	BYV27-200	UT261	1N5059
UFN521	BUK453-60B	UG4A	BYV28-50	UT262	1N5059

DISCRETE SEMICONDUCTORS

Alphanumeric cross-reference

Industry type number	Philips type number	Industry type number	Philips type number	Industry type number	Philips type number
UT264	1N5060	UTX3105	BYV27-50	VN4000D	BUK455-400B
UT265	1N5061	UTX3110	BYV27-100	VN4001D	BUK455-400B
UT267	1N5061	UTX3115	BYV27-150	VN400D	BUK453-60B
UT268	1N5062	UTX3120	BYV27-200	VN401D	BUK453-60B
UT3005	BYM56A	UTX4105	BYV28-50	VN5001D	BUK455-500B
UT3010	BYM56A	UTX4110	BYV28-100	VN5002D	BUK455-500B
UT3020	BYM56A	UTX4115	BYV28-150	VN600D	BUK453-60B
UT3040	BYM56B	UTX4120	BYV28-200	VN601D	BUK453-60B
UT3060	BYM56C	V322	BYM56A	VN610L	BS170
UT347	BYD13M	V324	BYM56B	VN8008D	BUK455-600A
UT361	BYD13K	V326	BYM56C	VN8009D	BUK455-600B
UT362	BYD13K	V328	BYM56D	VN800D	BUK453-100B
UT363	BYD13M	V330	BYM56A	VN801D	BUK453-100B
UT364	BYW56	V330X	BYW95A	VP0610L	BST110
UTR01	BYD33D	V331	BYM56A	VP0614L	BST110
UTR02	BYV95A	V3310	BYM56E	VPA12	CR3424
UTR10	BYD33D	V331X	BYW95A	VPA13	CR3424
UTR11	BYD33D	V332	BYM56A	VSK1020	PBYR1635
UTR12	BYV95A	V332X	BYW95A	VSK1035	PBYR1635
UTR20	BYD33D	V334	BYM56B	VSK1040	PBYR1640
UTR21	BYD33D	V334X	BYW95B	VSK1045	PBYR1645
UTR22	BYV95A	V336	BYM56C	VSK2035	PBYR2035CT
UTR2305	BYW95A	V336X	BYW95C	VSK920	PBYR1635
UTR2310	BYW95A	VHE1405	BYV29-300	VSK935	PBYR1635
UTR2320	BYW95A	VHE1406	BYV29-400	VSK940	PBYR1640
UTR2340	BYW95B	VHE1407	BYV29-500	VSK945	PBYR1645
UTR2350	BYW95C	VHE2401	BYV32E-50	XR2428	CR2427
UTR2360	BYW95C	VHE2402	BYV32E-100	ZC2811E	BAT17
UTR30	BYD33G	VHE2403	BYV32E-150	ZC5800E	BAT17
UTR31	BYD33G	VHE2404	BYV32E-200	ZC5800E	PMBD101
UTR32	BYV95B	VHE2405	BYV34-300	ZGL41-100	BZD27-C100
UTR3305	BYW95A	VHE2406	BYV34-400	ZGL41-110	BZD27-C110
UTR3310	BYW95A	VHE2407	BYV34-500	ZGL41-120	BZD27-C120
UTR3320	BYW95A	VM1L20FT	BLF244	ZGL41-130	BZD27-C130
UTR3340	BYW95B	VM1L40FT	BLF245	ZGL41-140	BZD27-C150
UTR3350	BYW95C	VMOB-70	BLV75/12	ZGL41-150	BZD27-C150
UTR3360	BYW95C	VMUL-50	BLW50F	ZGL41-160	BZD27-C160
UTR40	BYD33G	VN0610LL	2N7000	ZGL41-170	BZD27-C180
UTR41	BYD33G	VN0808L	BST70A	ZGL41-180	BZD27-C180
UTR42	BYV95B	VN0808M	BST70A	ZGL41-190	BZD27-C200
UTR50	BYD33J	VN1000D	BUK453-100A	ZGL41-200	BZD27-C200
UTR51	BYD33J	VN1001AD	BUK453-100B	ZGP10-100	BZD23-C100
UTR52	BYV95C	VN1001D	BUK453-100B	ZGP10-110	BZD23-C110
UTR60	BYD33J	VN10KE	BS170	ZGP10-120	BZD23-C120
UTR61	BYD33J	VN10KM	BS170	ZGP10-130	BZD23-C130
UTR62	BYV95C	VN1206L	BST74A	ZGP10-140	BZD23-C150
UTX105	BYD73A	VN1210L	BST74A	ZGP10-150	BZD23-C150
UTX110	BYD73B	VN1210M	BST72A	ZGP10-160	BZD23-C160
UTX115	BYD73C	VN1706L	BST74A	ZGP10-170	BZD23-C180
UTX120	BYD73D	VN1710L	BST74A	ZGP10-180	BZD23-C180
UTX125	BYD73E	VN2222KM	2N7000	ZGP10-190	BZD23-C200
UTX205	BYD73A	VN2222L	2N7000	ZGP10-200	BZD23-C200
UTX210	BYD73B	VN222L	BS170	ZMM10	BZV55C10
UTX215	BYD73C	VN2410L	VN2410L	ZMM11	BZV55C11
UTX220	BYD73D	VN3500D	BUK455-400B	ZMM12	BZV55C12
UTX225	BYD73E	VN3501D	BUK454-400B	ZMM13	BZV55C13

Alphanumeric cross-reference

Industry type number	Philips type number
ZMM15	BZV55C15
ZMM16	BZV55C16
ZMM18	BZV55C18
ZMM20	BZV55C20
ZMM22	BZV55C22
ZMM24	BZV55C24
ZMM27	BZV55C27
ZMM3	BZV55C3V0
ZMM30	BZV55C30
ZMM33	BZV55C33
ZMM36	BZV55C36
ZMM39	BZV55C39
ZMM3.3	BZV55C3V3
ZMM3.6	BZV55C3V6
ZMM3.9	BZV55C3V9
ZMM43	BZV55C43
ZMM47	BZV55C47
ZMM4.3	BZV55C4V3
ZMM4.7	BZV55C4V7
ZMM51	BZV55C51
ZMM5226	PMLL5226B
ZMM5227	PMLL5227B
ZMM5228	PMLL5228B
ZMM5229	PMLL5229B
ZMM5230	PMLL5230B
ZMM5231	PMLL5231B
ZMM5232	PMLL5232B
ZMM5233	PMLL5233B
ZMM5234	PMLL5234B
ZMM5235	PMLL5235B
ZMM5236	PMLL5236B
ZMM5237	PMLL5237B
ZMM5238	PMLL5238B
ZMM5239	PMLL5239B
ZMM5240	PMLL5240B
ZMM5241	PMLL5241B
ZMM5242	PMLL5242B
ZMM5243	PMLL5243B
ZMM5244	PMLL5244B
ZMM5245	PMLL5245B
ZMM5246	PMLL5246B
ZMM5247	PMLL5247B
ZMM5248	PMLL5248B
ZMM5249	PMLL5249B
ZMM5250	PMLL5250B
ZMM5251	PMLL5251B
ZMM5252	PMLL5252B
ZMM5253	PMLL5253B
ZMM5254	PMLL5254B
ZMM5255	PMLL5255B
ZMM5256	PMLL5256B
ZMM5257	PMLL5257B
ZMM5.1	BZV55C5V1
ZMM5.6	BZV55C5V6
ZMM6.2	BZV55C6V2
ZMM6.8	BZV55C6V8
ZMM7.5	BZV55C7V5
ZMM8.2	BZV55C8V2
ZMM9.1	BZV55C9V1
ZPUxxx	BZD23-Cxxx
ZPYxxx	BZD23-Cxxx
ZVN0106L	BUK453-100B
ZVN0108L	BUK453-100B
ZVN0109L	BUK453-100B
ZVN0110L	BUK453-100B
ZVN0114L	BUK454-200B
ZVN0116L	BUK454-200B
ZVN0117TA	BST76A
ZVN0120L	BUK454-200B
ZVN01A2L	BUK453-60B
ZVN01A3L	BUK453-60B
ZVN01A4L	BUK453-60B
ZVN0204L	BUK453-60B
ZVN0206L	BUK453-100B
ZVN0208L	BUK453-100B
ZVN0209L	BUK453-100B
ZVN0210L	BUK453-100B
ZVN0214L	BUK454-200B
ZVN0216L	BUK454-200B
ZVN0220L	BUK454-200B
ZVN02A2L	BUK453-60B
ZVN02A3L	BUK453-60B
ZVN0330L	BUK454-400B
ZVN0335L	BUK454-400B
ZVN0340L	BUK454-400B
ZVN0345L	BUK454-500B
ZVN0350L	BUK454-500B
ZVN0530L	BUK454-400B
ZVN0535L	BUK454-400B
ZVN0540L	BUK454-400B
ZVN0545L	BUK454-500B
ZVN1104L	BUK453-60B
ZVN1106L	BUK453-100B
ZVN1108L	BUK453-100B
ZVN1109L	BUK453-100B
ZVN1110L	BUK453-100B
ZVN1114L	BUK454-200B
ZVN1116L	BUK454-200B
ZVN1120L	BUK454-200B
ZVN11A2L	BUK453-60B
ZVN11A3L	BUK453-60B
ZVN1204L	BUK453-60B
ZVN1206L	BUK453-100B
ZVN1208L	BUK453-100B
ZVN1209L	BUK453-100B
ZVN1210L	BUK453-100B
ZVN1214L	BUK454-200B
ZVN1216L	BUK454-200B
ZVN12A2L	BUK453-60B
ZVN12A3L	BUK453-60B
ZVN1306A	BS170
ZVN1308A	BST72A
ZVN1310A	BST72A
ZVN1320A	BS107
ZVN2115A	BST76A
ZVN3302A	BS170
ZVN3304A	BS170
ZVN3306A	BS170
ZVP0106A	BS250
ZVP3302A	BST110
ZVP3304A	BST110
ZVP3306A	BST110
ZYxxx	BZD23-Cxxx
Zxxx	BZD23-Cxxx

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package	material	mounting technique	packing method	SPQ	PQ
DO-4	metal	stud	bulk pack	25	250
DO-5	metal	stud	bulk pack	10	100
DO-41	glass	leaded	reel pack,axial,stan	5000	5000
FO41B	ceramic	leaded	bulk pack	1	40
FO45	ceramic	leaded	bulk pack	1	40
			bulk pack	20	60
FO46	ceramic	leaded	bulk pack	20	60
FO57			bulk pack	1	40
FO57C	ceramic	leaded	bulk pack	1	40
FO57D	ceramic	leaded	bulk pack	1	40
FO67	ceramic	leaded	bulk pack	1	40
FO83	ceramic	leaded	bulk pack	1	40
FO85			bulk pack	10	150
FO91	ceramic	leaded	bulk pack	1	40
FO91B	ceramic	leaded	bulk pack	1	40
FO93	ceramic	leaded	bulk pack	1	40
			bulk pack	2	40
FO96	ceramic	leaded	bulk pack	1	40
FO102			bulk pack	10	150
FO125			bulk pack	1	40
FO150			bulk pack	1	10
FO151			bulk pack	50	50
			bulk pack	25	100
			trade pack	1	1
FO163	ceramic	leaded	bulk pack	1	40
FO229	ceramic	leaded	bulk pack	1	40
SOD27 (DO35)	glass	leaded	bulk pack	1000	1000
			bulk pack	2000	2000
			reel pack,axial,stan	10000	10000
			ammopack,radial	5000	5000
			reel pack,radial	5000	5000
			reel pack,axial,26mm	10000	10000
			ammopack,axial,52mm	10000	10000
			reel pack,axial,rev	5000	5000
			ammopack,axial,26mm	5000	5000
			meanderpack,axial,small	500	500
			meanderpack,axial,small	1000	1000
SOD53			bulk pack	1000	6000
			reel pack,radial	2000	10000
			ammopack,radial	4500	22500
			reel pack,radial,rev	2000	10000
SOD57	glass	leaded	bulk pack	250	250
			bulk pack	1000	1000
			bulk pack,kinked leads	1500	1500
			reel pack,axial,stan	5000	5000
			ammopack,axial,52mm	3000	3000
			meanderpack,axial,small	200	200

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package	material	mounting technique	packing method	SPQ	PQ
SOD61	glass	leaded	reel pack,axial,stan	5000	5000
			meanderpack,axial,small	50	50
SOD63			ammopack,radial	2500	12500
SOD64	glass	leaded	bulk pack	250	250
			bulk pack	1000	1000
			bulk pack,kinked leads	1500	1500
			reel pack,axial,stan	4000	4000
			meanderpack,axial,small	200	200
SOD68 (DO34)	glass	leaded	bulk pack	1000	1000
			bulk pack	2000	2000
			reel pack,axial,stan	10000	10000
			ammopack,radial	5000	5000
			reel pack,radial	5000	5000
			reel pack,axial,26mm	10000	10000
			ammopack,axial,52mm	10000	10000
			reel pack,radial,rev	5000	5000
			ammopack,axial,26mm	5000	5000
			meanderpack,axial,small	500	500
			meanderpack,axial,small	1000	1000
SOD69	plastic	leaded	bulk pack	600	600
SOD80	glass	SMD	bulk pack	1000	10000
			reel pack,SMD,7"	2500	2500
			reel pack,SMD,13"	10000	10000
			5–reel pack,SMD,13"	50000	50000
SOD81	glass	leaded	bulk pack	10	1000
			reel pack,axial,stan	5000	5000
			ammopack,axial,52mm	5000	5000
			ammopack,axial,26mm	5000	5000
			meanderpack,axial,small	500	500
			reel pack,axial,CECC	5000	5000
SOD83	glass	leaded	reel pack,axial,stan	2000	2000
			meanderpack,axial,small	50	50
SOD84	glass	leaded	reel pack,axial,stan	5000	5000
			ammopack,axial,52mm	2500	2500
			meanderpack,axial,small	200	200
SOD87	glass	SMD	bulk pack	1000	8000
			reel pack,SMD,7"	2000	2000
			5–reel pack,SMD,7"	2000	10000
			reel pack, SMD,13"	8000	8000
			5–reel pack,SMD,13"	8000	40000
SOD88A	glass	leaded	reel pack,axial,stan	5000	5000
			meanderpack,axial,small	50	50
SOD91	glass	leaded	reel pack,axial,stan	10000	10000
			ammopack,axial,52mm	10000	10000
			ammopack,axial,26mm	5000	5000
			meanderpack,axial,small	1000	1000
SOD102			bulk pack	1000	2000
SOD104			bulk pack	1000	2000
SOD123	plastic	SMD	reel pack,SMD,7"	3000	3000
			reel pack,SMD,13"	10000	10000

DISCRETE SEMICONDUCTORS

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package	material	mounting technique	packing method	SPQ	PQ
SOT5			bulk pack bulk pack,CECC	50 50	1000 1000
SOT23	plastic	SMD	bulk pack PHIALS reel pack,SMD,7" reel pack,SMD,13"	500 3000 10000	25000 3000 10000
SOT32 (TO126)			horizontal rail pack	50	1000
SOT37	plastic	leaded	bulk pack	500	9000
SOT48	plastic	leaded	bulk pack	20	60
SOT54 (TO92)	plastic	leaded	bulk pack reel pack,radial ammopack,radial reel pack,radial,rev	1000 2000 2000 2000	5000 10000 10000 10000
SOT55	plastic	leaded	bulk pack trade pack	20 4	40 32
SOT56	plastic	leaded	bulk pack trade pack	20 4	40 32
SOT82	plastic	leaded	horizontal rail pack	50	1000
SOT89	plastic	SMD	bulk pack reel pack,SMD,7" reel pack,SMD,7",rev reel pack,SMD, 13"	250 1000 1000 4000	20000 1000 1000 4000
SOT93	plastic	leaded	horizontal rail pack (bent lead) horizontal rail pack	25 25	150 500
SOT100	ceramic	leaded	bulk pack reel pack,7"	100 1000	700 1000
SOT103	plastic	leaded	bulk pack	500	5000
SOT115	metal module	leaded	bulk pack,blister trade pack,blister	25 5	100 5
SOT119	ceramic	leaded	bulk pack trade pack	20 4	40 32
SOT120	ceramic	leaded	bulk pack,blister	20	40
SOT121	ceramic	leaded	bulk pack trade pack	20 4	40 32
SOT122	ceramic	leaded	bulk pack trade pack	20 4	40 32
SOT123	ceramic	leaded	bulk pack trade pack	20 4	40 32
SOT128 (TO202)	plastic	leaded	tube	50	1000
SOT132			bulk pack,blister	12	36
SOT143	plastic	SMD	bulk pack,SMD reel pack,SMD,7" reel pack,SMD,13"	500 3000 10000	25000 3000 10000
SOT147	ceramic	leaded	bulk pack trade pack	20 4	40 32

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package	material	mounting technique	packing method	SPQ	PQ
SOT148			bulk pack	20	80
			trade pack	1	1
SOT160	ceramic	leaded	bulk pack	25	75
SOT161	ceramic	leaded	bulk pack	20	40
			trade pack	4	32
SOT171	ceramic	leaded	bulk pack	20	40
			trade pack	4	32
SOT172	ceramic	leaded	bulk pack	20	40
			bulk pack	20	60
			bulk pack	25	75
			trade pack	4	48
SOT173	ceramic	leaded	bulk pack	50	3500
			reel pack, SMD,7"	1000	1000
			reel pack,SMD,long leads	600	600
SOT179	ceramic	leaded	bulk pack	20	60
SOT181	plastic module	leaded	bulk pack	4	100
			bulk pack	30	150
SOT183			bulk pack	15	75
SOT186	plastic	leaded	horizontal rail pack	50	300
			horizontal rail pack	50	1000
			horizontal rail pack	1000	1000
SOT186A	plastic	leaded	horizontal rail pack	50	1000
SOT194			horizontal rail pack	50	1000
SOT195	plastic	leaded	bulk pack	150	150
			bulk pack	500	4000
			trade pack	10	10
			trade pack	100	1000
SOT199	plastic	leaded	bulk pack	50	1000
			horizontal rail pack	25	150
			horizontal rail pack	25	500
			horizontal rail pack	500	500
			horizontal rail pack	33	660
			horizontal rail pack	50	1000
SOT200	plastic	leaded	bulk pack	2	50
SOT211	plastic	leaded	bulk pack	500	1000
SOT212	plastic	leaded	horizontal rail pack	63	2520
SOT223	plastic	SMD	bulk pack	250	20000
			bulk pack	500	20000
			reel pack,SMD,7"	1000	1000
			reel pack,SMD,large	4000	4000
SOT227	plastic	leaded	bulk pack	3	30
			bulk pack	5	50
			bulk pack	10	100
			bulk pack	20	100
			bulk pack	25	100
			bulk pack	100	100
			bulk pack	50	1000
			bulk pack	1000	5000
			horizontal rail pack	10	100
			horizontal rail pack	100	100

Packing quantities

Smallest packing quantity (SPQ) and packing quantity (PQ)

package	material	mounting technique	packing method	SPQ	PQ
SOT228	plastic	leaded	horizontal rail pack	55	2200
SOT229	plastic	leaded	horizontal rail pack	55	2750
SOT230	plastic	leaded	horizontal rail pack	55	2750
SOT242			bulk pack trade pack	20 1	80 1
SOT246	plastic	leaded	bulk pack bulk pack	2 15	50 75
SOT253			bulk pack bulk pack	100 50	200 2000
SOT262	ceramic	leaded	bulk pack	2	16
SOT263	plastic	leaded	horizontal rail pack	50	1000
SOT268	ceramic	leaded	bulk pack	20	40
SOT271	plastic	leaded	horizontal rail pack horizontal rail pack marking branding as	42 42 42	1680 3402 3402
SOT273	ceramic	leaded	bulk pack trade pack	20 4	40 32
SOT279	ceramic	leaded	bulk pack	20	40
SOT289	ceramic	leaded	bulk pack trade pack	20 4	40 32
TO–5 (SOT5,TO34)			bulk pack	50	1000
TO–18 (SOT18)	metal	leaded	bulk pack	1000	5000
TO–39	metal	leaded	bulk pack	50	1000
TO–46			bulk pack trade pack	25 5	100 5
TO–92 (SOT54)	plastic	leaded	bulk pack reel pack,radial ammopack,radial	1000 2000 2000	5000 10000 10000
TO–126 (SOT32)			reel pack,radial	2000	10000
TO–220 (SOT78)	plastic	leaded	bulk pack bulk pack bulk pack horizontal rail pack horizontal rail pack horizontal rail pack	10 25 25 50 50 1000	100 250 600 600 1000 1000
TO–238			bulk pack bulk pack	5 10	50 300

DISCRETE SEMICONDUCTORS

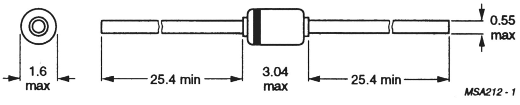
Package outlines

CONTENTS

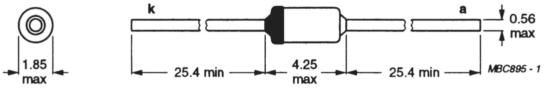
package code	page 4–
DO-4(1)	238
DO-4(2)	238
DO-34	238
DO-41	238
Fig.a	284
Fig.b	284
Fig.c	284
Fig.d	284
Fig.e	284
Fig.f	284
Fig.g	284
Fig.h	284
Fig.i	284
FO41B	240
FO45	240
FO46	240
FO57	240
FO57C	241
FO57D	241
FO67	241
FO83	241
FO85	242
FO91	242
FO91B	242
FO93	242
FO96	243
FO102	239
FO229	239
FO231	239
SC59	243
SC70(a)	244
SC70(b)	244
SOD27	246
SOD57	246
SOD61	246
SOD64	247
SOD66	247
SOD68	247
SOD69	247
SOD80	247
SOD80C	247
SOD81	248
SOD83	248
SOD84	248
SOD84A	248
SOD87	248
SOD88A	249
SOD91	249
SOD106A	244
SOD110	245
SOD123	245
SOD323	246
SOT5/12	278
SOT23	266
SOT32	271
SOT37	273
SOT48/2	278
SOT48/3	278
SOT54	279
SOT55	279
SOT56	279
SOT82	280
SOT88C	270
SOT88D	270
SOT89	280
SOT93	280
SOT93A	280
SOT100	249
SOT103	250
SOT115C	250
SOT115D	251
SOT115G	251
SOT115H	252
SOT115J	252
SOT115L	253
SOT115M	253
SOT119	254
SOT119D3	254
SOT120	255
SOT121	255
SOT122A	256
SOT122D	256
SOT122E	256
SOT122F	257
SOT123	257
SOT128B	258
SOT132B	258
SOT143	258
SOT143R	259
SOT147	259
SOT160	259
SOT161	260
SOT171	260
SOT172	261
SOT172A1	261
SOT172A2	261
SOT172D	262
SOT173	262
SOT179	262
SOT181	263
SOT183A	263
SOT186	264
SOT186A	264
SOT195	264
SOT199	264
SOT200	265
SOT223	265
SOT227B	266
SOT228D	266
SOT262A1	267
SOT262A2	267
SOT263	267
SOT268	268
SOT273	268
SOT278	268
SOT278A	269
SOT278B	269
SOT279	270
SOT289	271
SOT321A	272
SOT321B	272
SOT323	273
SOT324	273
SOT342	274
SOT343	274
SOT343R	275
SOT347	275
SOT348	276
SOT350	276
SOT359	277
SOT404	277
TO-18	281
TO-39	282
TO-39/1	282
TO-39/3	282
TO-48(1)	282
TO-48(2)	282
TO-72	283
TO-72(1)	283
TO-72(2)	283
TO-92	283
TO-92(2)	283
TO-126	281
TO-220AB	281
TO-220AB(3)	281
TO-220AC	282

Package outlines

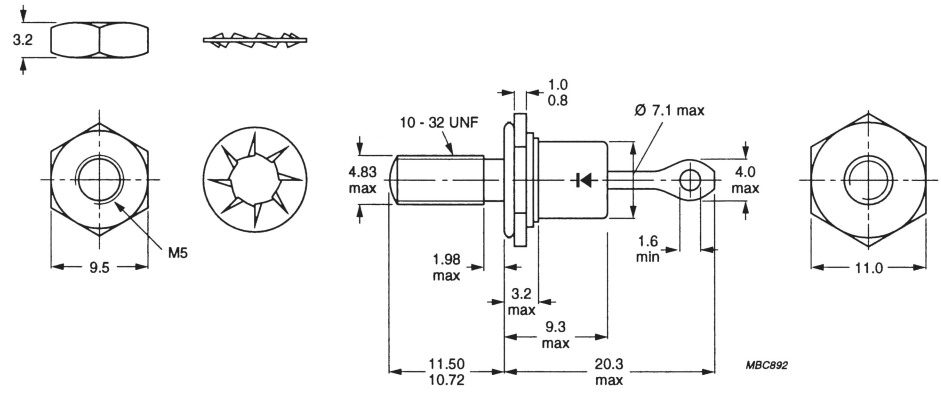
DO-34


0.55
max
1.6
max
25.4 min
3.04
max
25.4 min
MSA212 - 1

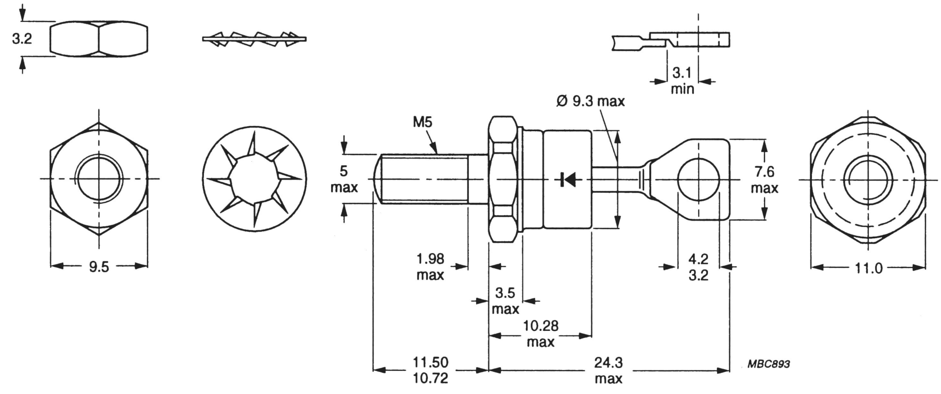
DO-35


k
a
0.56
max
1.85
max
25.4 min
4.25
max
25.4 min
MBC895 - 1

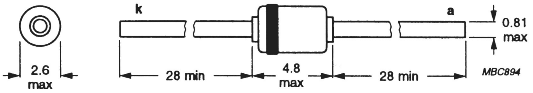
DO-4(1)


3.2
1.0
0.8
Ø 7.1 max
10 - 32 UNF
4.83
max
4.0
max
M5
1.6
min
9.5
1.98
max
11.0
3.2
max
9.3
max
11.50
10.72
20.3
max
MBC892

DO-4(2)


3.2
3.1
min
Ø 9.3 max
M5
5
max
7.6
max
9.5
1.98
max
4.2
3.2
11.0
3.5
max
10.28
max
11.50
10.72
24.3
max
MBC893

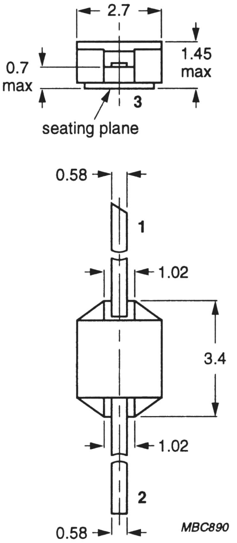
DO-41


k
a
0.81
max
2.6
max
28 min
4.8
max
28 min
MBC894

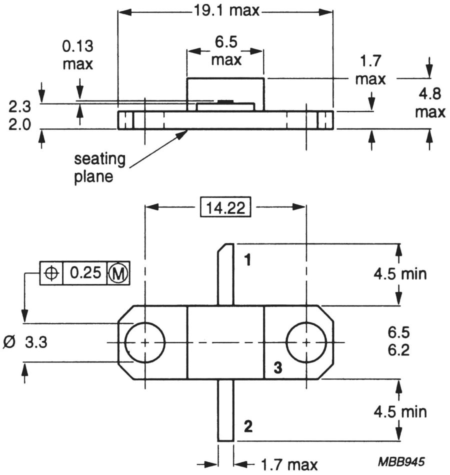
MSB119

Package outlines

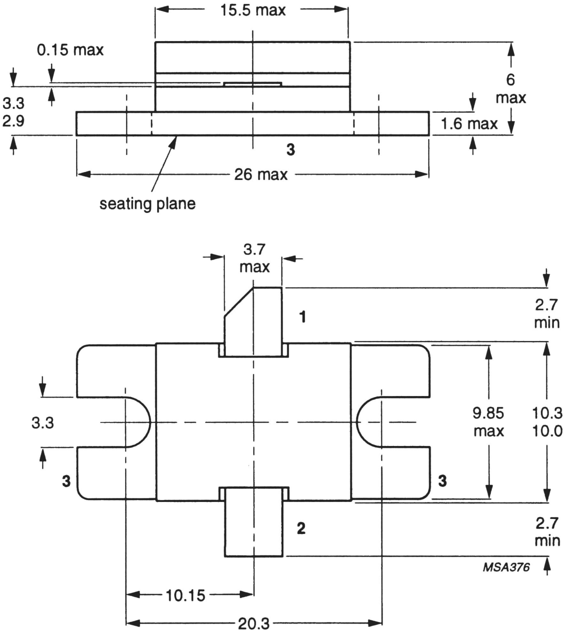
FO102


2.7
0.7
max
1.45
max
3
seating plane
0.58
1
1.02
3.4
1.02
2
0.58
MBC890

FO229

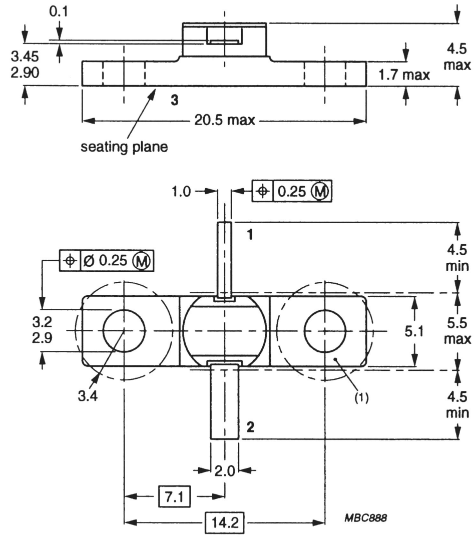

19.1 max
0.13
max
6.5
max
1.7
max
4.8
max
2.3
2.0
seating
plane
14.22
0.25 M
1
4.5 min
Ø 3.3
6.5
6.2
3
4.5 min
2
1.7 max
MBB945

FO231

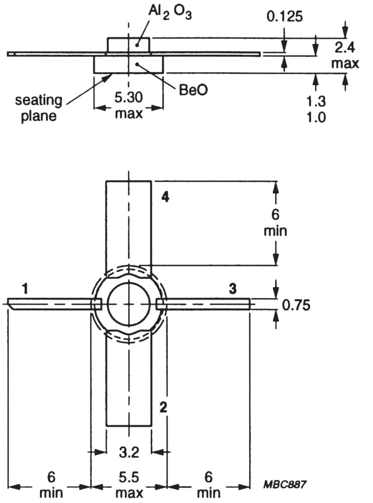

15.5 max
0.15 max
6
max
3.3
2.9
1.6 max
3
26 max
seating plane
3.7
max
2.7
min
1
3.3
9.85
max
10.3
10.0
3
3
2
2.7
min
MSA376
10.15
20.3

Package outlines

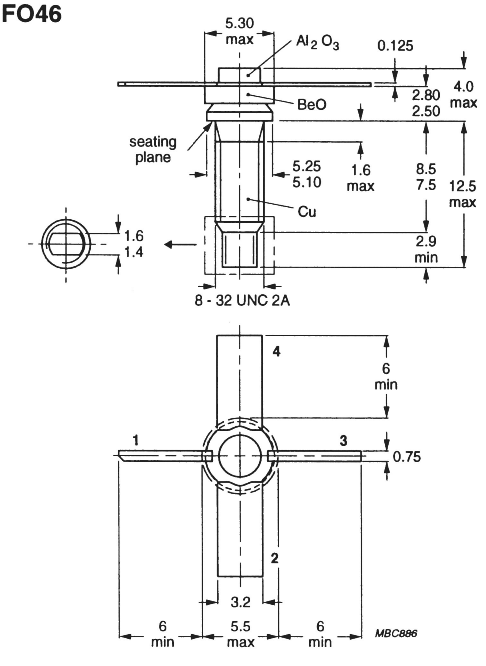
FO41B


0.1
3.45
2.90
4.5
max
1.7 max
3
20.5 max
seating plane
1.0
⌖ 0.25 Ⓜ
⌖ Ø 0.25 Ⓜ
1
4.5
min
3.2
2.9
5.1
5.5
max
3.4
(1)
4.5
min
2
2.0
7.1
14.2
MBC888

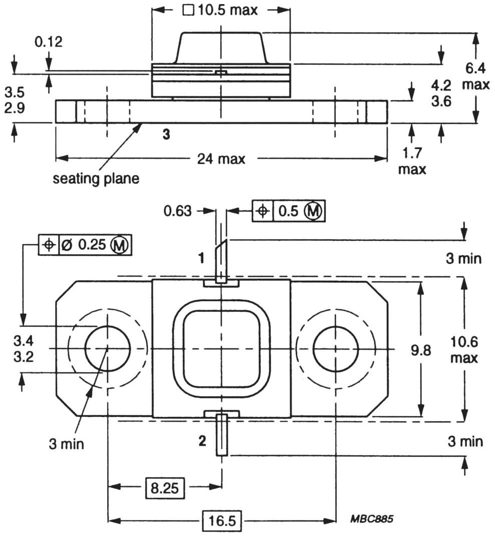
FO45


Al2 O3
0.125
2.4
max
seating
plane
5.30
max
BeO
1.3
1.0
4
6
min
1
3
0.75
2
3.2
6
min
5.5
max
6
min
MBC887

FO46

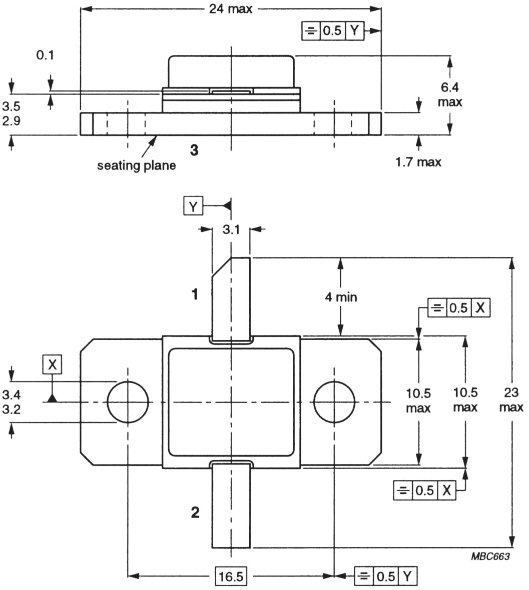

5.30
max
Al2 O3
0.125
4.0
max
2.80
2.50
BeO
seating
plane
5.25
5.10
1.6
max
8.5
7.5
12.5
max
Cu
1.6
1.4
2.9
min
8 - 32 UNC 2A
4
6
min
1
3
0.75
2
3.2
6
min
5.5
max
6
min
MBC886

FO57

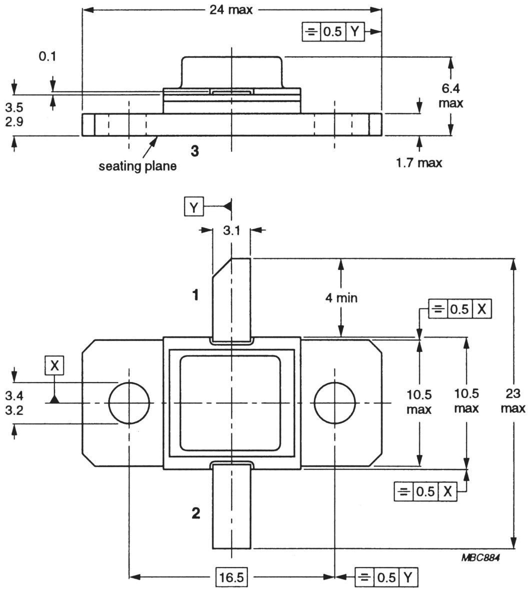

□10.5 max
0.12
6.4
max
3.5
2.9
4.2
3.6
3
24 max
1.7
max
seating plane
0.63
⌖ 0.5 Ⓜ
⌖ Ø 0.25 Ⓜ
1
3 min
3.4
3.2
9.8
10.6
max
3 min
2
3 min
8.25
16.5
MBC885

Package outlines

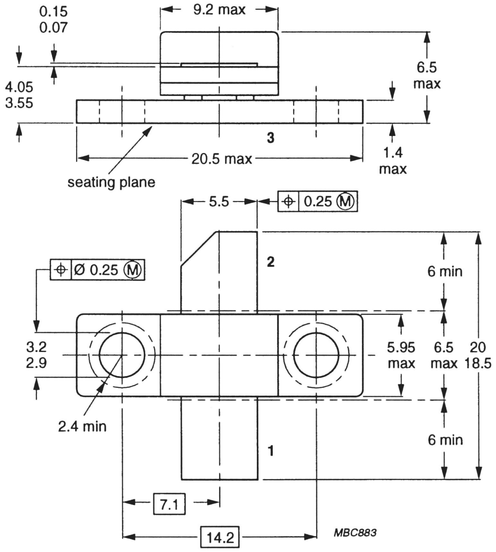
FO57C


24 max
0.5 Y
0.1
3.5
2.9
6.4
max
3
seating plane
1.7 max
Y
3.1
1
4 min
0.5 X
X
3.4
3.2
10.5
max
10.5
max
23
max
0.5 X
2
MBC663
16.5
0.5 Y

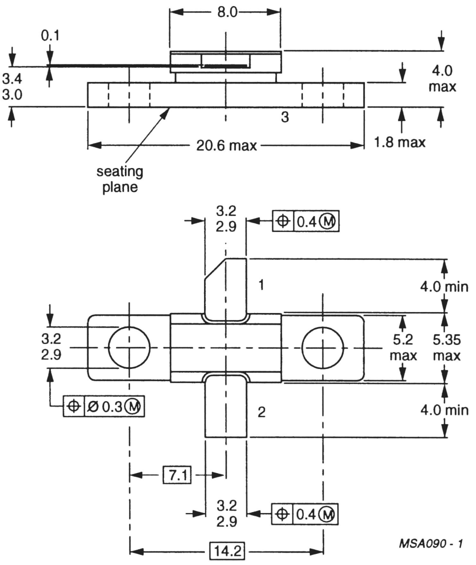
FO57D


24 max
0.5 Y
0.1
3.5
2.9
6.4
max
3
seating plane
1.7 max
Y
3.1
1
4 min
0.5 X
X
3.4
3.2
10.5
max
10.5
max
23
max
0.5 X
2
MBC884
16.5
0.5 Y

FO67

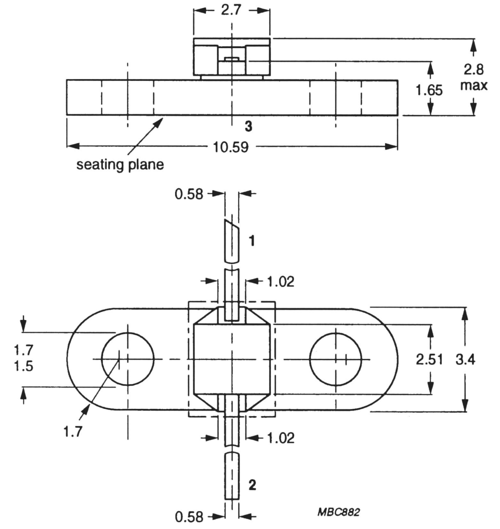

0.15
0.07
9.2 max
4.05
3.55
6.5
max
3
20.5 max
1.4
max
seating plane
5.5
0.25 M
2
Ø 0.25 M
6 min
3.2
2.9
5.95
max
6.5
max
20
18.5
2.4 min
1
6 min
7.1
14.2
MBC883

FO83

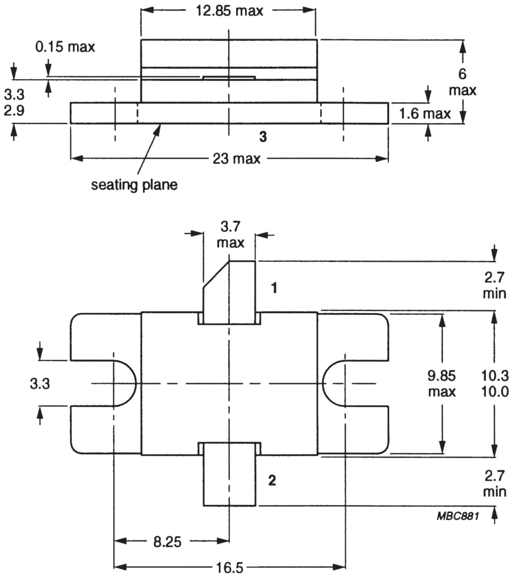

8.0
0.1
3.4
3.0
4.0
max
3
20.6 max
1.8 max
seating
plane
3.2
2.9
0.4 M
1
4.0 min
3.2
2.9
5.2
max
5.35
max
Ø 0.3 M
2
4.0 min
7.1
3.2
2.9
0.4 M
14.2
MSA090 - 1

Package outlines

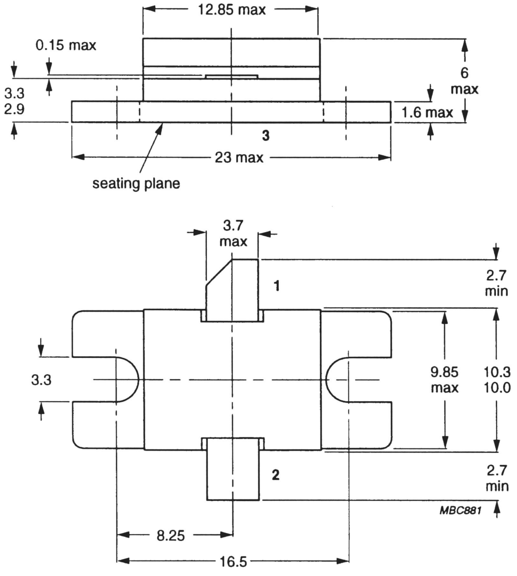
FO85


2.7
2.8
max
1.65
3
10.59
seating plane
0.58
1
1.02
1.7
1.5
2.51
3.4
1.7
1.02
2
0.58
MBC882

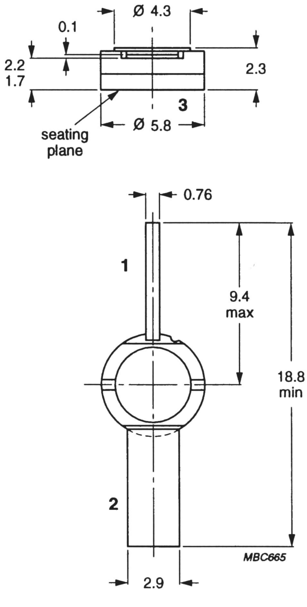
FO91


12.85 max
0.15 max
6
max
3.3
2.9
1.6 max
3
23 max
seating plane
3.7
max
1
2.7
min
3.3
9.85
max
10.3
10.0
2
2.7
min
MBC881
8.25
16.5

FO91B

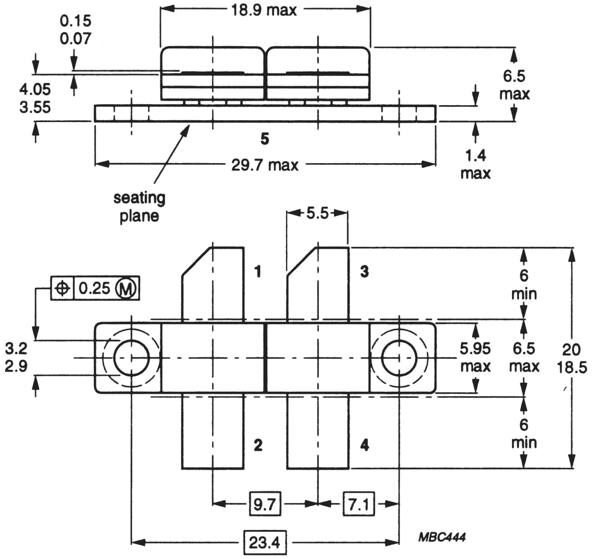

12.85 max
0.15 max
6
max
3.3
2.9
1.6 max
3
23 max
seating plane
3.7
max
1
2.7
min
3.3
9.85
max
10.3
10.0
2
2.7
min
MBC881
8.25
16.5

FO93

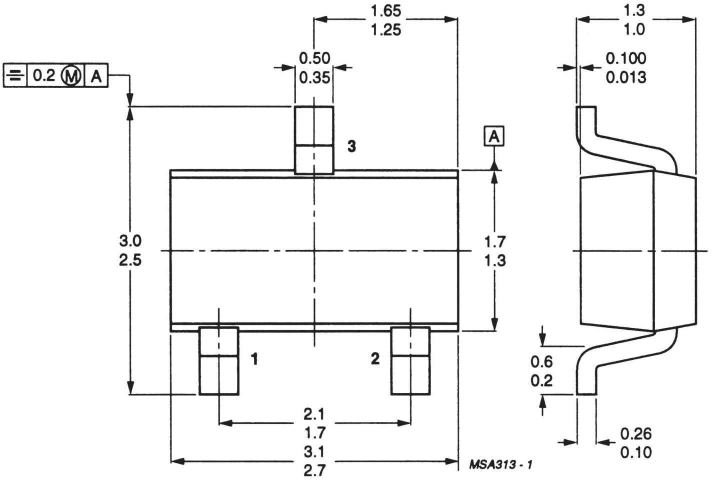

Ø 4.3
0.1
2.2
1.7
2.3
3
Ø 5.8
seating
plane
0.76
1
9.4
max
18.8
min
2
MBC665
2.9

Package outlines

FO96

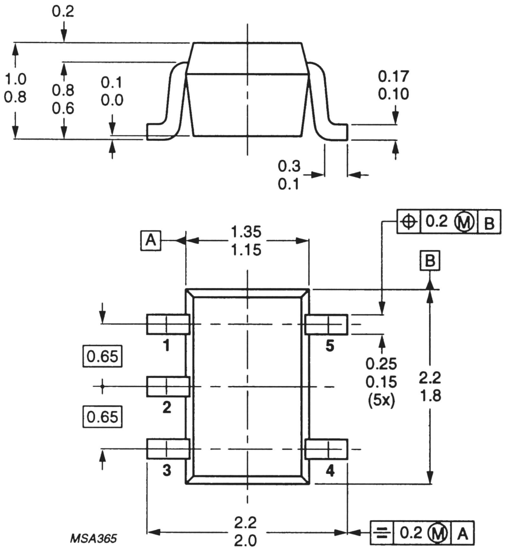

18.9 max
0.15
0.07
4.05
3.55
6.5
max
5
29.7 max
1.4
max
seating
plane
5.5
1
3
0.25 M
6
min
3.2
2.9
5.95
max
6.5
max
20
18.5
2
4
9.7
7.1
23.4
MBC444

SC59

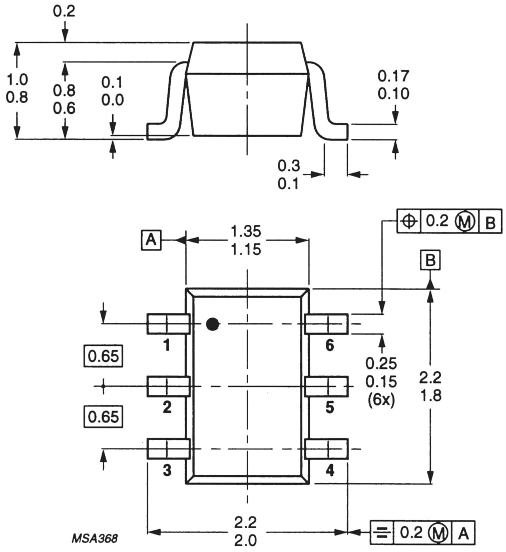

1.65
1.25
1.3
1.0
0.50
0.35
0.100
0.013
0.2 M A
3
A
3.0
2.5
1.7
1.3
1
2
0.6
0.2
2.1
1.7
3.1
2.7
0.26
0.10
MSA313 - 1

Package outlines

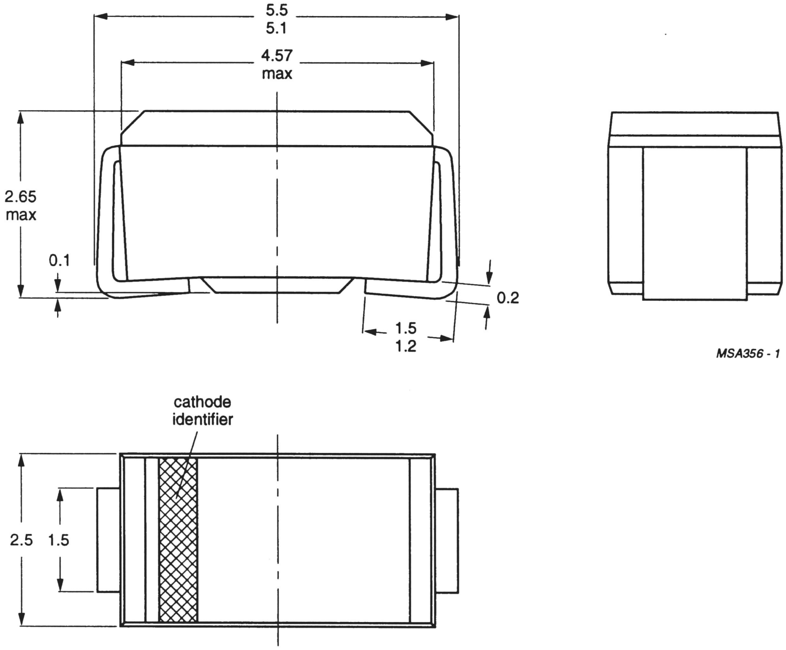
SC70(a)


0.2
1.0
0.8
0.8
0.6
0.1
0.0
0.17
0.10
0.3
0.1
A
1.35
1.15
⊕ 0.2 Ⓜ B
B
0.65
0.65
1
2
3
4
5
0.25
0.15
(5x)
2.2
1.8
2.2
2.0
≡ 0.2 Ⓜ A
MSA365

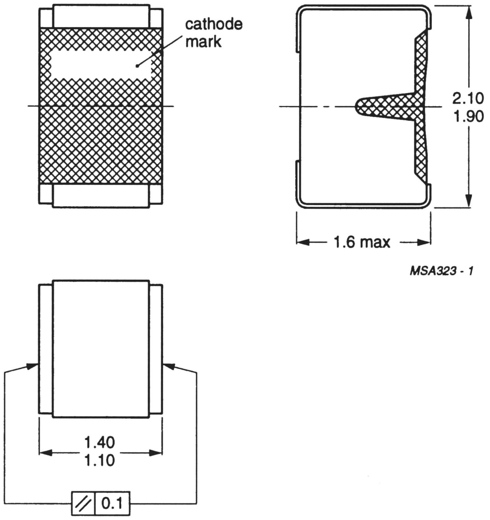
SC70(b)


0.2
1.0
0.8
0.8
0.6
0.1
0.0
0.17
0.10
0.3
0.1
A
1.35
1.15
⊕ 0.2 Ⓜ B
B
0.65
0.65
1
2
3
4
5
6
0.25
0.15
(6x)
2.2
1.8
2.2
2.0
≡ 0.2 Ⓜ A
MSA368

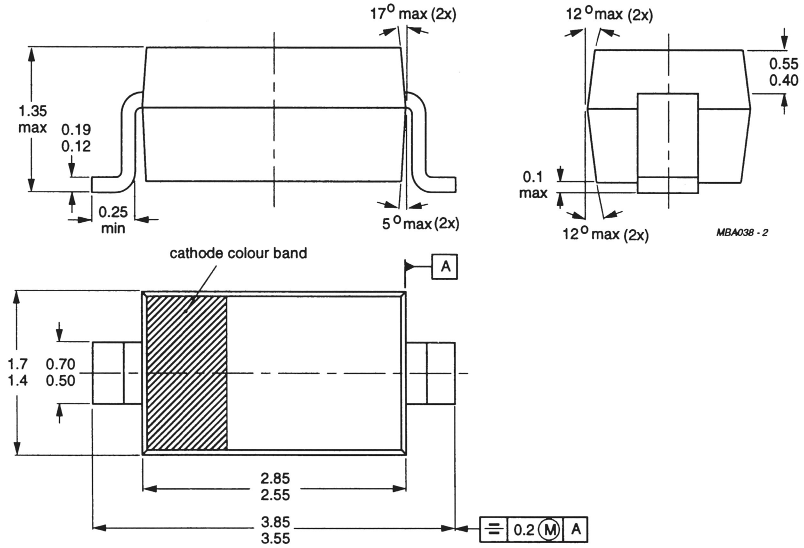
SOD106A


5.5
5.1
4.57
max
2.65
max
0.1
0.2
1.5
1.2
MSA356 - 1
cathode
identifier
2.5
1.5

SOD110

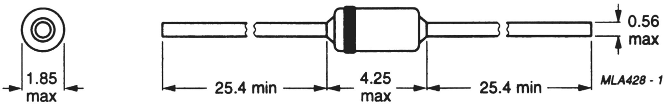

cathode mark
2.10
1.90
1.6 max
MSA323 - 1
1.40
1.10
// 0.1

SOD123

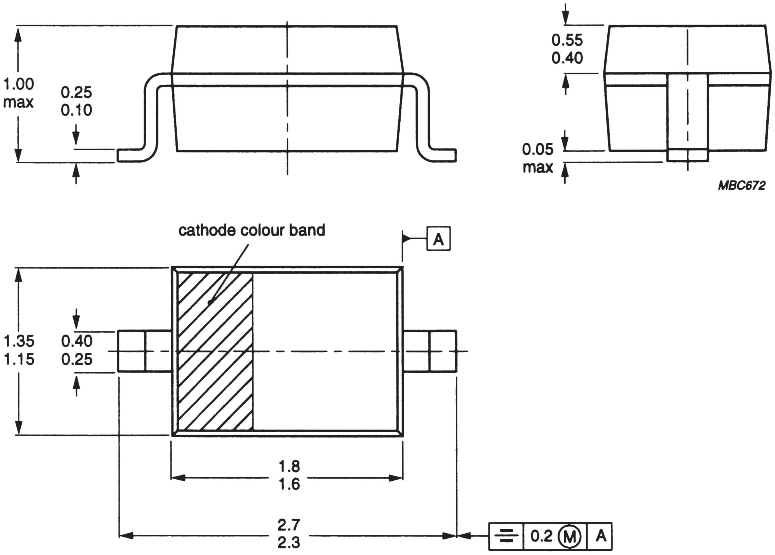

17° max (2x)
12° max (2x)
0.55
0.40
1.35 max
0.19
0.12
0.1 max
0.25 min
5° max (2x)
12° max (2x)
MBA038 - 2
cathode colour band
A
1.7
1.4
0.70
0.50
2.85
2.55
3.85
3.55
≡ 0.2 Ⓜ A

Package outlines

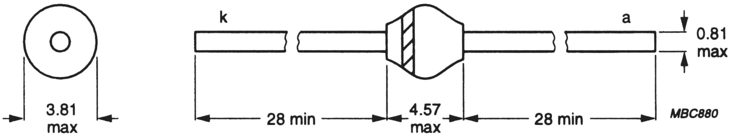
SOD27


1.85
max
25.4 min
4.25
max
25.4 min
0.56
max
MLA428 - 1

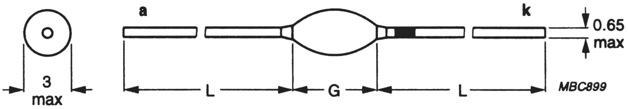
SOD323


1.00
max
0.25
0.10
0.55
0.40
0.05
max
MBC672
cathode colour band
A
1.35
1.15
0.40
0.25
1.8
1.6
2.7
2.3
0.2
M
A

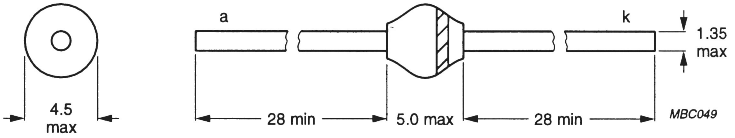
SOD57


k
a
0.81
max
3.81
max
28 min
4.57
max
28 min
MBC880

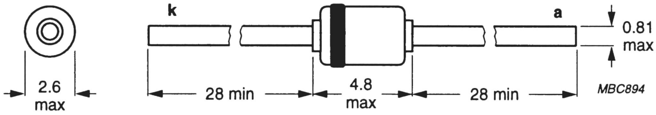
SOD61


a
k
0.65
max
3
max
L
G
L
MBC899

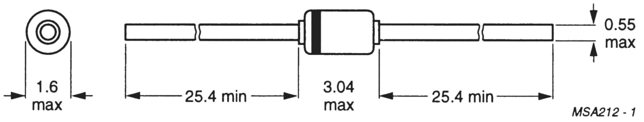
SOD64


a
k
1.35
max
4.5
max
28 min
5.0 max
28 min
MBC049

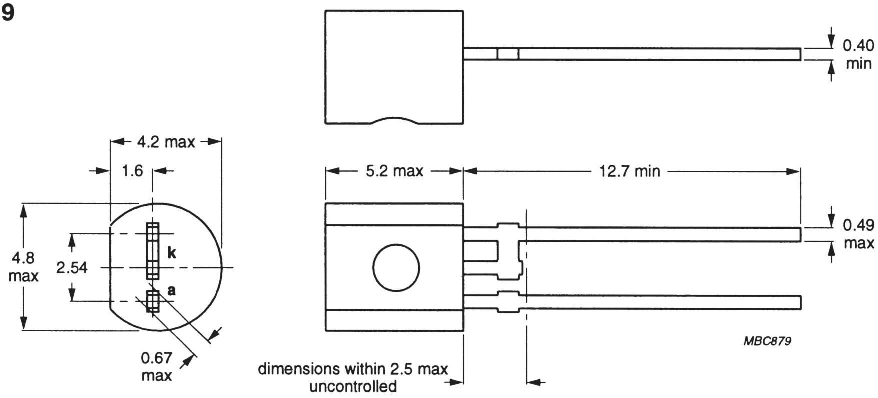
SOD66


k
a
0.81
max
2.6
max
28 min
4.8
max
28 min
MBC894

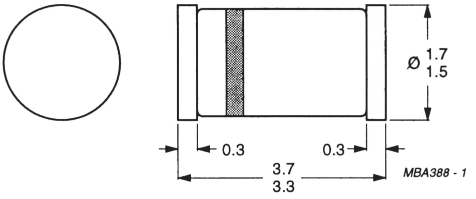
SOD68


0.55
max
1.6
max
25.4 min
3.04
max
25.4 min
MSA212 - 1

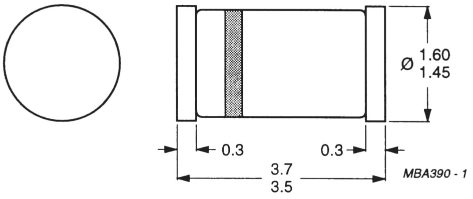
SOD69


0.40
min
4.2 max
1.6
5.2 max
12.7 min
4.8
max
2.54
k
a
0.49
max
0.67
max
MBC879
dimensions within 2.5 max
uncontrolled

SOD80

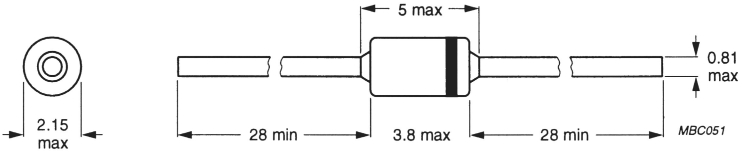

Ø 1.7
1.5
0.3
0.3
3.7
3.3
MBA388 - 1

SOD80C

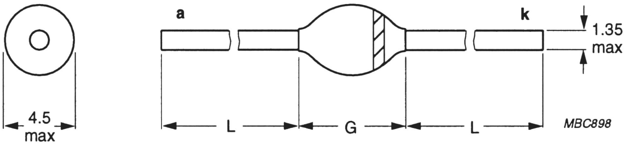

Ø 1.60
1.45
0.3
0.3
3.7
3.5
MBA390 - 1

Package outlines

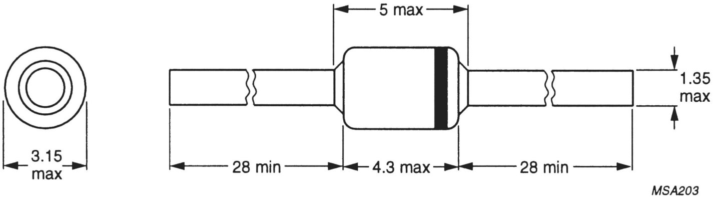
SOD81


5 max
0.81
max
2.15
max
28 min
3.8 max
28 min
MBC051

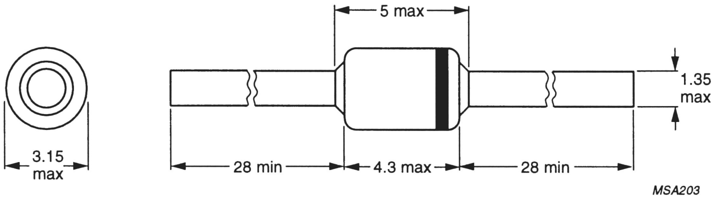
SOD83


a
k
1.35
max
4.5
max
L
G
L
MBC898

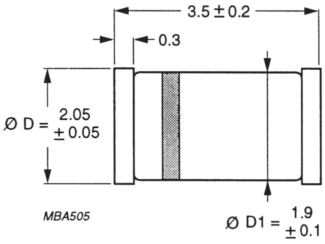
SOD84


5 max
1.35
max
3.15
max
28 min
4.3 max
28 min
MSA203

SOD84A

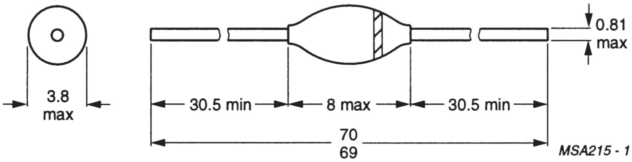

5 max
1.35
max
3.15
max
28 min
4.3 max
28 min
MSA203

SOD87

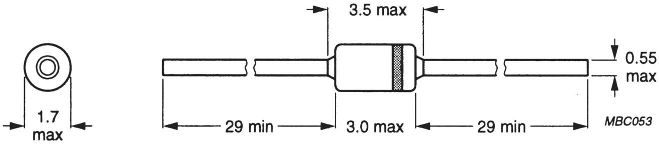

3.5 ± 0.2
0.3
Ø D = 2.05 ± 0.05
Ø D1 = 1.9 ± 0.1
MBA505

Package outlines

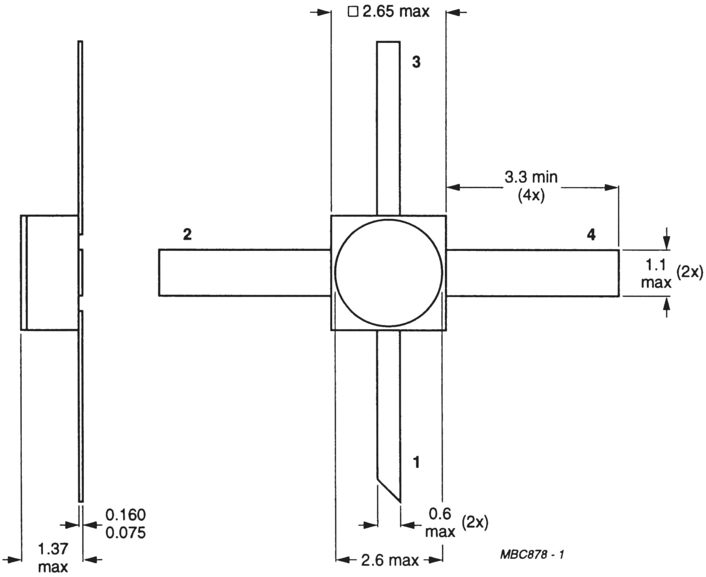
SOD88A


0.81
max
3.8
max
30.5 min
8 max
30.5 min
70
69
MSA215 - 1

SOD91

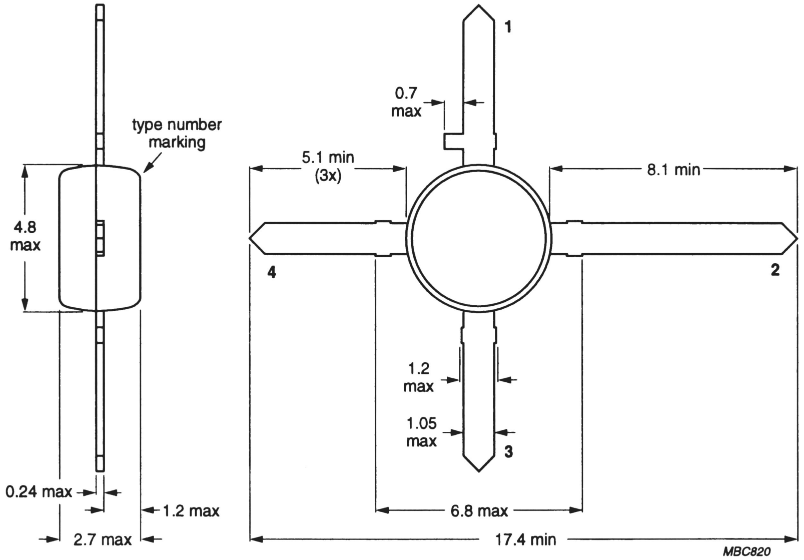

3.5 max
0.55
max
1.7
max
29 min
3.0 max
29 min
MBC053

SOT100

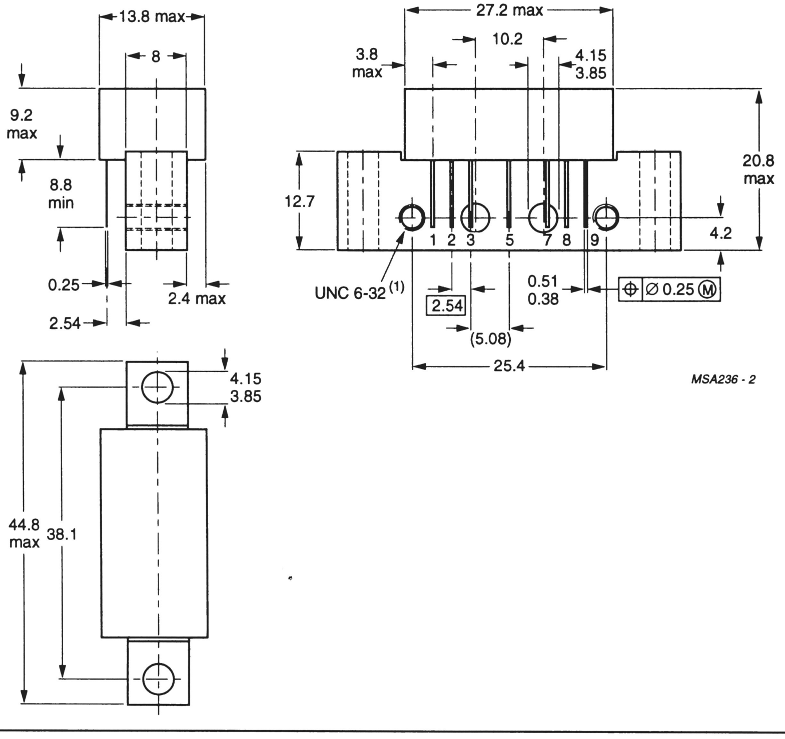

□ 2.65 max
3
3.3 min
(4x)
2
4
1.1
max
(2x)
1
0.6
max
(2x)
0.160
0.075
1.37
max
2.6 max
MBC878 - 1

Package outlines

SOT103

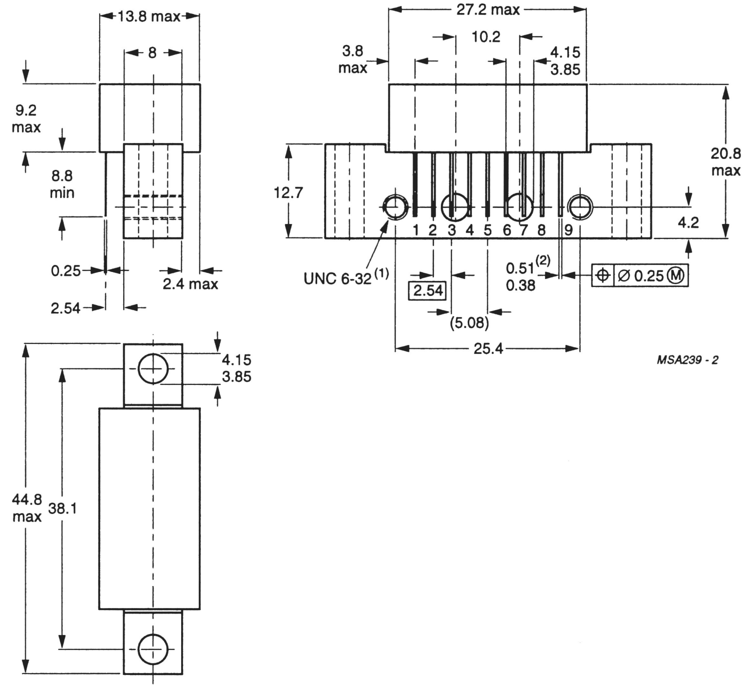

type number marking
4.8 max
0.24 max
1.2 max
2.7 max
0.7 max
5.1 min (3x)
8.1 min
1
2
3
4
1.2 max
1.05 max
6.8 max
17.4 min
MBC820

SOT115C

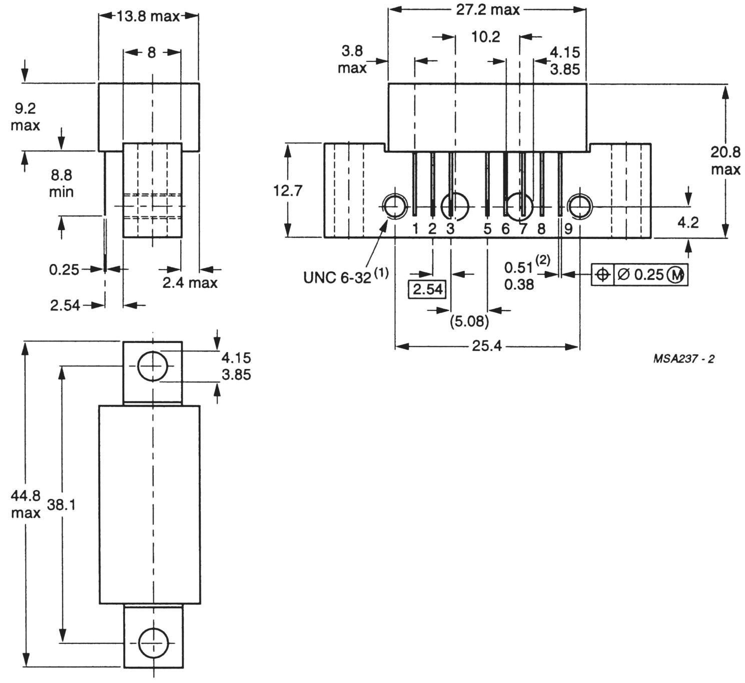

13.8 max
8
9.2 max
8.8 min
0.25
2.4 max
2.54
4.15
3.85
44.8 max
38.1
27.2 max
10.2
3.8 max
4.15
3.85
20.8 max
12.7
4.2
1 2 3 5 7 8 9
UNC 6-32 (1)
2.54
(5.08)
0.51
0.38
⌖ Ø 0.25 Ⓜ
25.4
MSA236 - 2

Package outlines

SOT115D

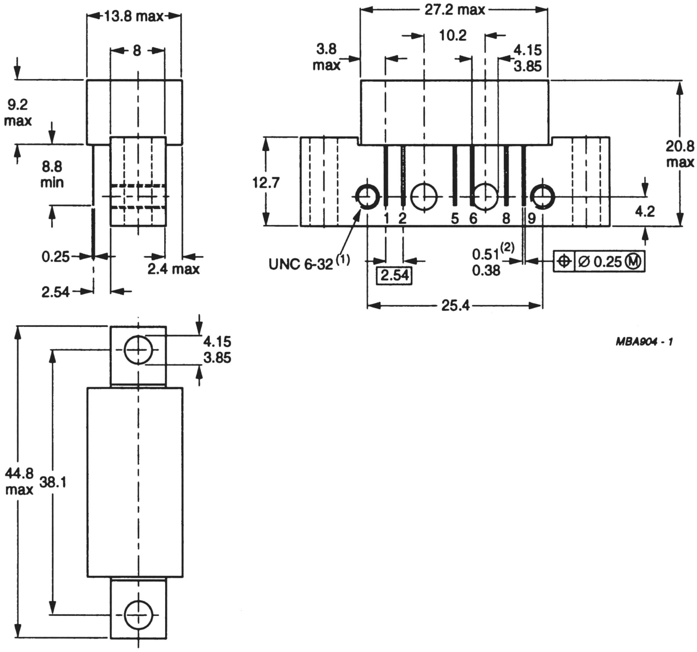

13.8 max
8
9.2
max
8.8
min
0.25
2.4 max
2.54
4.15
3.85
44.8
max
38.1
27.2 max
10.2
3.8
max
4.15
3.85
20.8
max
12.7
1 2 3 4 5 6 7 8 9
4.2
UNC 6-32 (1)
2.54
0.51 (2)
0.38
⊕ Ø 0.25 Ⓜ
(5.08)
25.4
MSA239 - 2

SOT115G

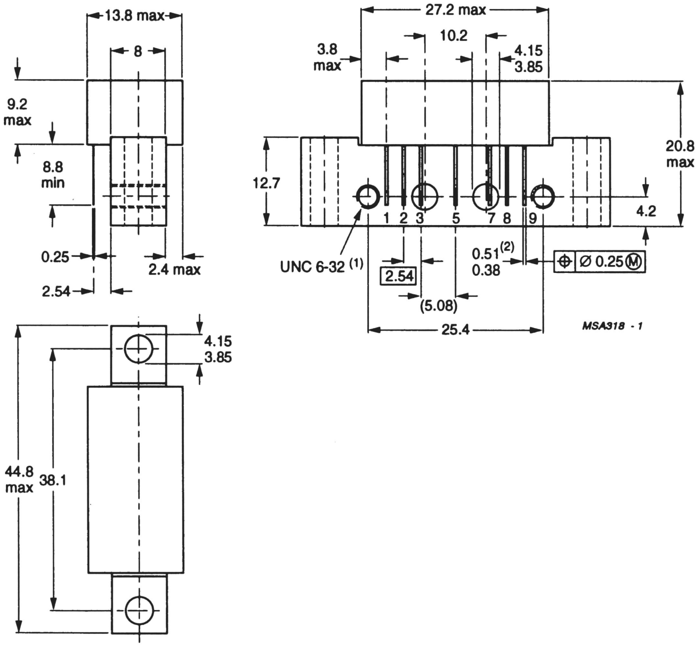

13.8 max
8
9.2
max
8.8
min
0.25
2.4 max
2.54
4.15
3.85
44.8
max
38.1
27.2 max
10.2
3.8
max
4.15
3.85
20.8
max
12.7
1 2 3 5 6 7 8 9
4.2
UNC 6-32 (1)
2.54
0.51 (2)
0.38
⊕ Ø 0.25 Ⓜ
(5.08)
25.4
MSA237 - 2

Package outlines

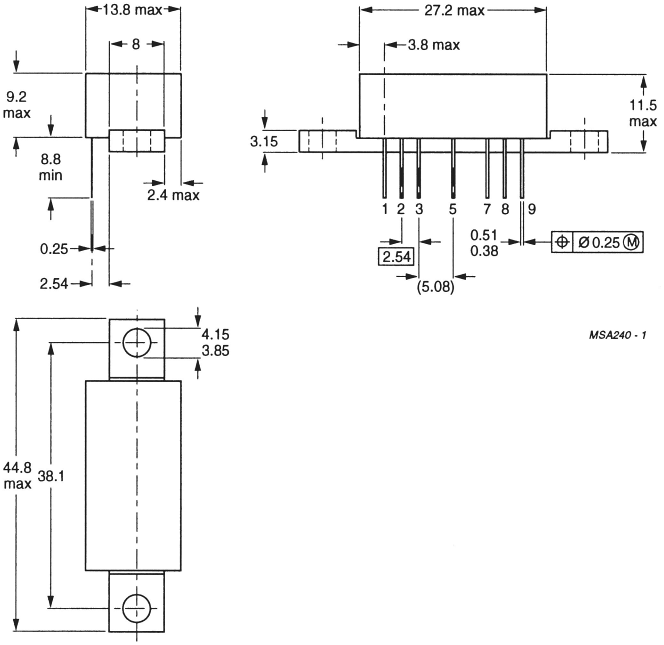
SOT115H


13.8 max
8
9.2
max
8.8
min
0.25
2.54
2.4 max
27.2 max
10.2
3.8
max
4.15
3.85
20.8
max
12.7
1 2
5 6
8
9
4.2
UNC 6-32(1)
2.54
0.51(2)
0.38
⌖ Ø 0.25 Ⓜ
25.4
MBA904 - 1
4.15
3.85
44.8
max
38.1

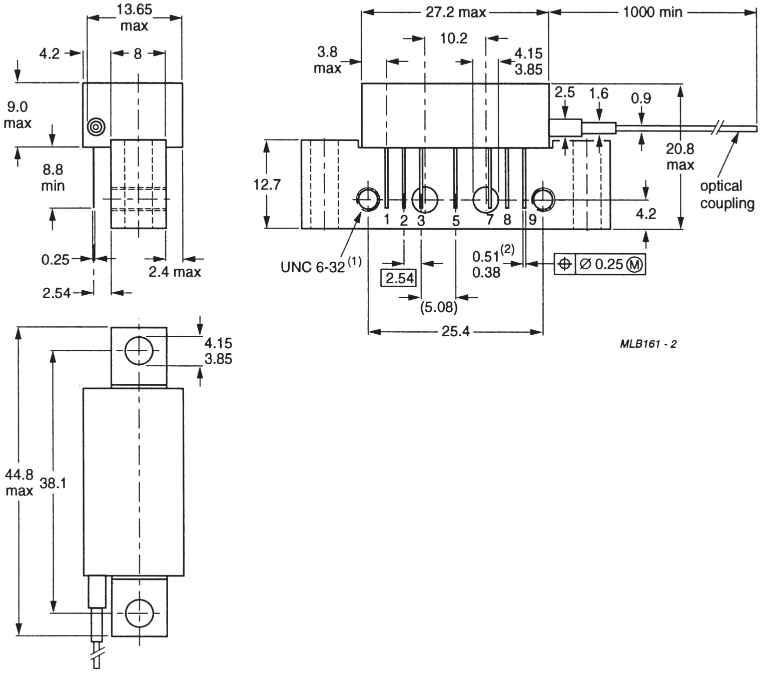
SOT115J


13.8 max
8
9.2
max
8.8
min
0.25
2.54
2.4 max
27.2 max
10.2
3.8
max
4.15
3.85
20.8
max
12.7
1 2 3
5
7 8
9
4.2
UNC 6-32 (1)
2.54
(5.08)
0.51(2)
0.38
⌖ Ø 0.25 Ⓜ
25.4
MSA318 - 1
4.15
3.85
44.8
max
38.1

SOT115L

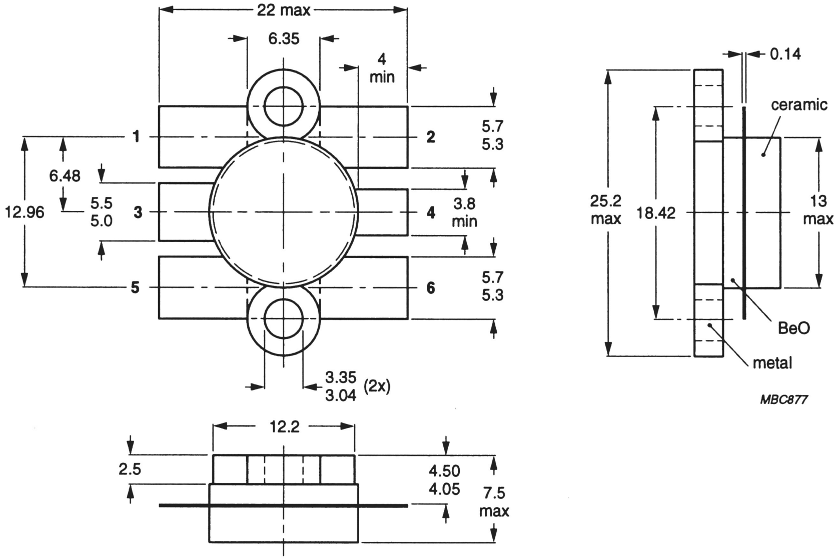

13.8 max
8
9.2
max
8.8
min
2.4 max
0.25
2.54
27.2 max
3.8 max
11.5
max
3.15
1 2 3 5 7 8 9
2.54
0.51
0.38
(5.08)
⌖ Ø0.25 Ⓜ
4.15
3.85
44.8
max
38.1
MSA240 - 1

SOT115M

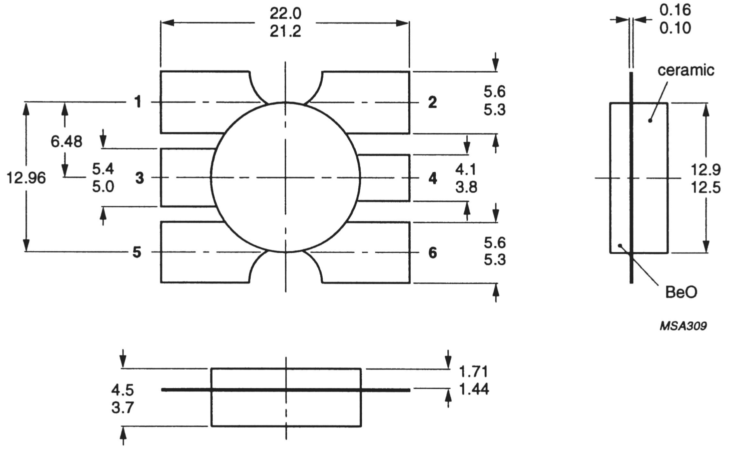

13.65
max
4.2
8
9.0
max
8.8
min
0.25
2.4 max
2.54
27.2 max
1000 min
10.2
3.8
max
4.15
3.85
2.5
1.6
0.9
20.8
max
optical
coupling
12.7
4.2
1 2 3 5 7 8 9
UNC 6-32 (1)
2.54
0.51 (2)
0.38
⌖ Ø0.25 Ⓜ
(5.08)
25.4
MLB161 - 2
4.15
3.85
44.8
max
38.1

Package outlines

SOT119

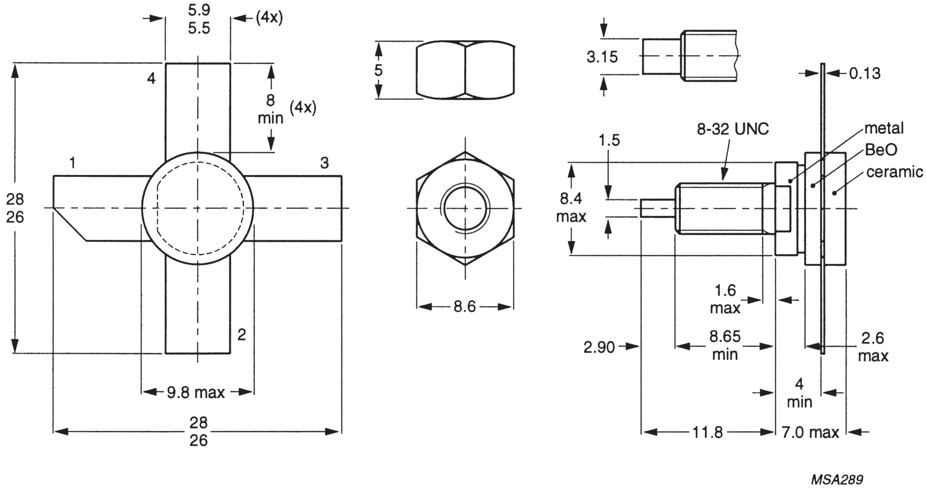

22 max
6.35
4 min
1
2
3
4
5
6
5.7
5.3
6.48
12.96
5.5
5.0
3.8 min
3.35
3.04
(2x)
12.2
2.5
4.50
4.05
7.5 max
0.14
ceramic
25.2 max
18.42
13 max
BeO
metal
MBC877

SOT119D3

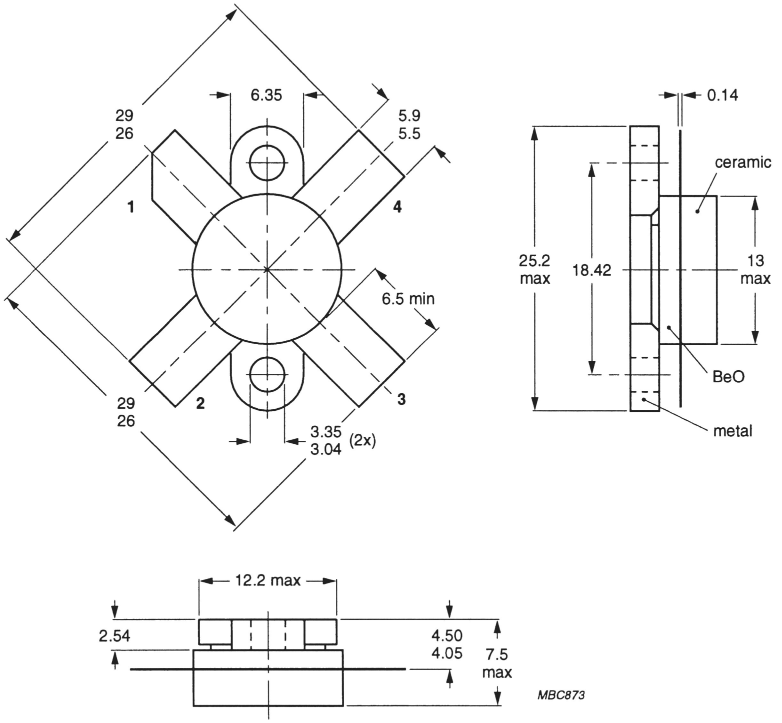

22.0
21.2
1
2
3
4
5
6
5.6
5.3
6.48
12.96
5.4
5.0
4.1
3.8
4.5
3.7
1.71
1.44
0.16
0.10
ceramic
12.9
12.5
BeO
MSA309

Package outlines

SOT120

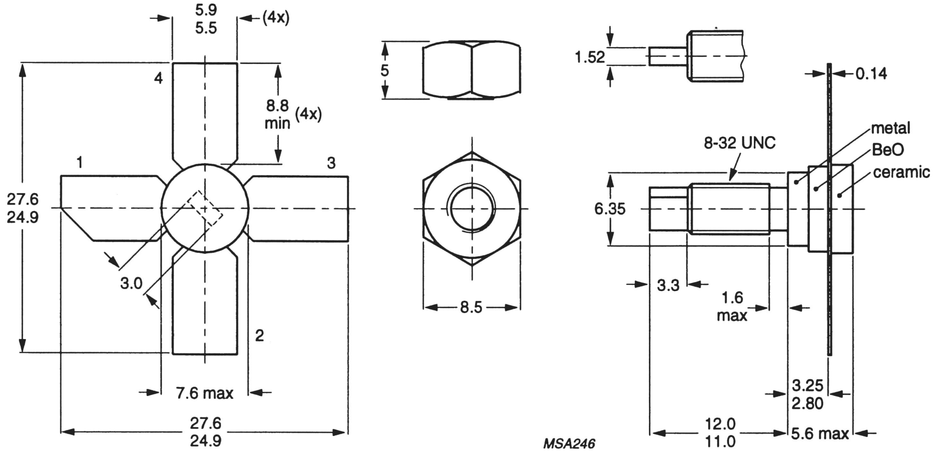

5.9
5.5
(4x)
4
8
min
(4x)
1
3
28
26
2
9.8 max
28
26
5
8.6
3.15
0.13
8-32 UNC
1.5
metal
BeO
ceramic
8.4
max
1.6
max
8.65
min
2.90
2.6
max
4
min
11.8
7.0 max
MSA289

SOT121

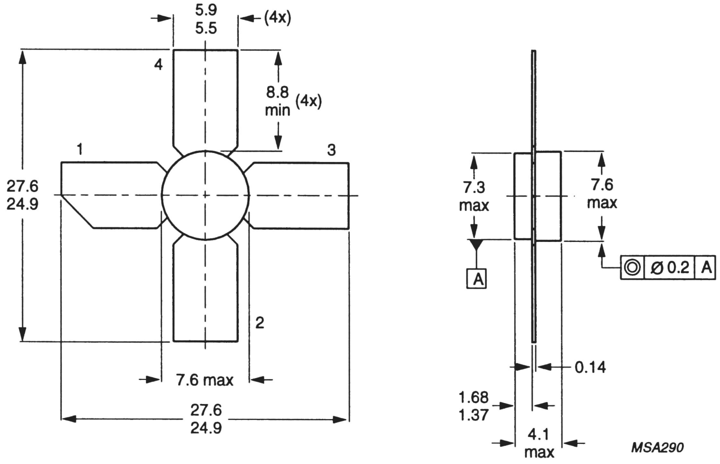

29
26
6.35
5.9
5.5
0.14
ceramic
1
4
25.2
max
18.42
13
max
6.5 min
29
26
2
3
BeO
3.35
3.04
(2x)
metal
12.2 max
2.54
4.50
4.05
7.5
max
MBC873

Package outlines

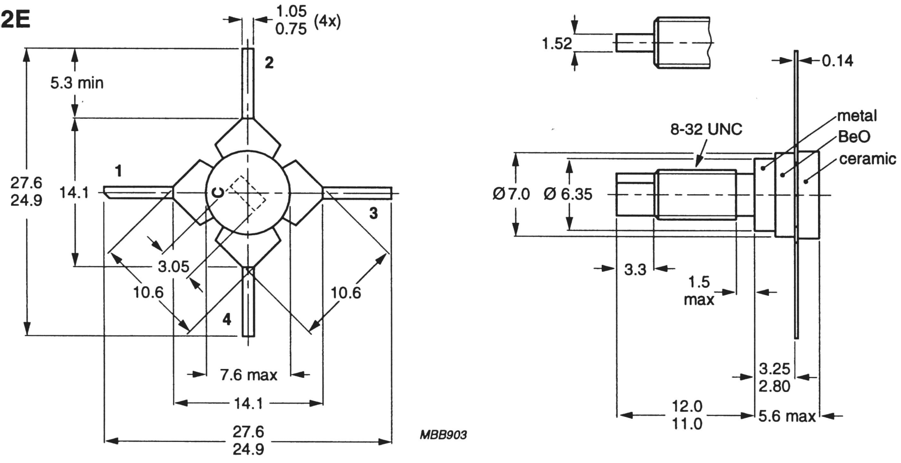
SOT122A


5.9
5.5
(4x)
4
8.8
min
(4x)
1
3
27.6
24.9
3.0
2
7.6 max
27.6
24.9
5
8.5
1.52
0.14
8-32 UNC
metal
BeO
ceramic
6.35
3.3
1.6
max
3.25
2.80
12.0
11.0
5.6 max
MSA246

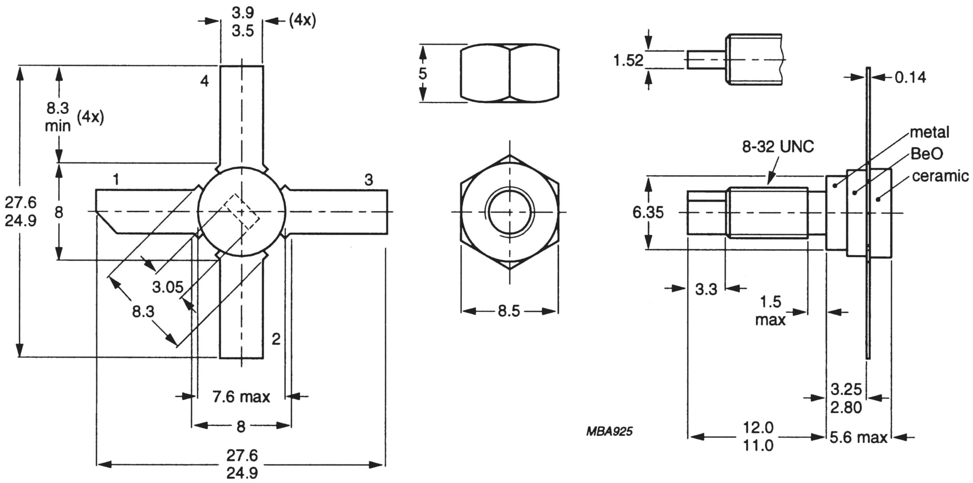
SOT122D


5.9
5.5
(4x)
4
8.8
min
(4x)
1
3
27.6
24.9
2
7.6 max
27.6
24.9
7.3
max
7.6
max
A
◎ Ø 0.2 A
0.14
1.68
1.37
4.1
max
MSA290

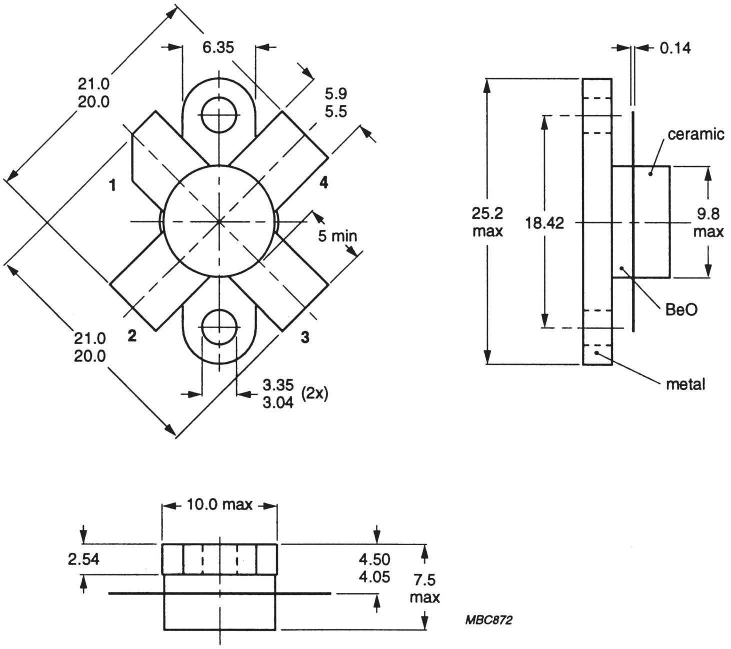
SOT122E


1.05
0.75
(4x)
2
5.3 min
1
27.6
24.9
14.1
c
3
3.05
10.6
10.6
4
7.6 max
14.1
27.6
24.9
MBB903
1.52
0.14
8-32 UNC
metal
BeO
ceramic
Ø 7.0
Ø 6.35
3.3
1.5
max
3.25
2.80
12.0
11.0
5.6 max

SOT122F

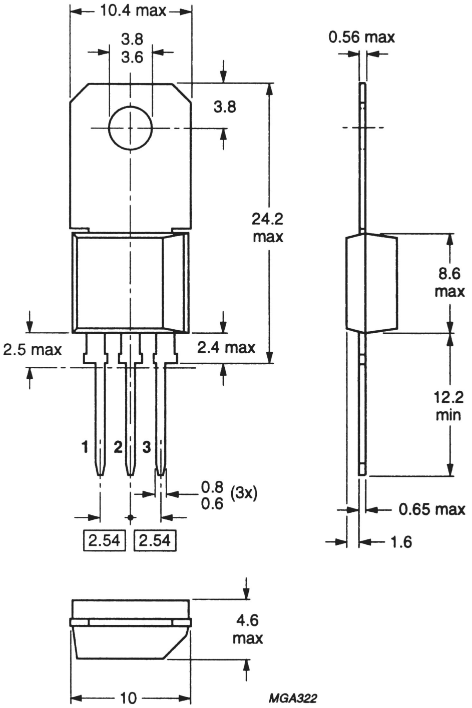

3.9
3.5
(4x)
4
8.3
min
(4x)
1
3
27.6
24.9
8
3.05
8.3
2
7.6 max
8
27.6
24.9
5
8.5
1.52
0.14
metal
BeO
ceramic
8-32 UNC
6.35
3.3
1.5
max
3.25
2.80
12.0
11.0
5.6 max
MBA925

SOT123

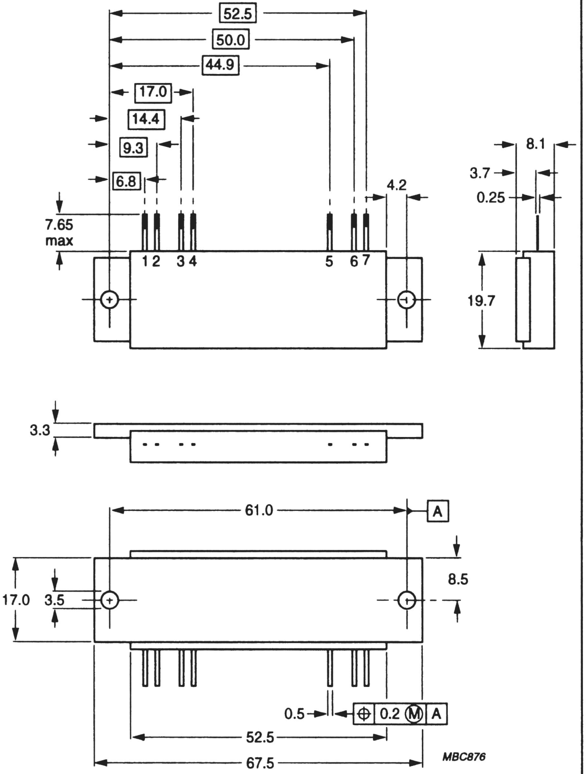

6.35
21.0
20.0
5.9
5.5
1
4
5 min
21.0
20.0
2
3
3.35
3.04
(2x)
0.14
ceramic
25.2
max
18.42
9.8
max
BeO
metal
10.0 max
2.54
4.50
4.05
7.5
max
MBC872

Package outlines

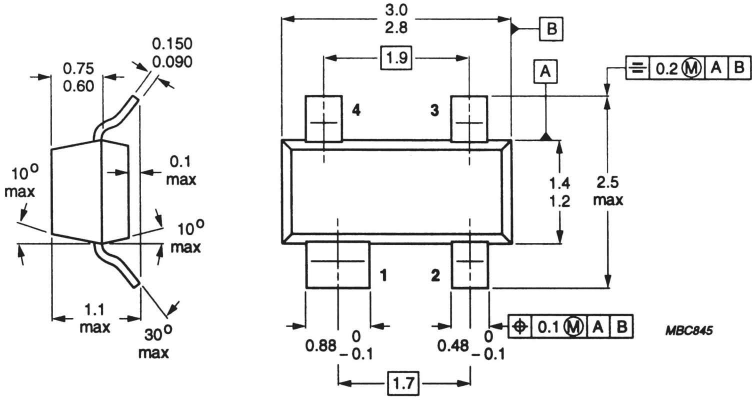
SOT128B


10.4 max
3.8
3.6
0.56 max
3.8
24.2
max
8.6
max
2.5 max
2.4 max
12.2
min
1
2
3
0.8
0.6
(3x)
0.65 max
2.54
2.54
1.6
4.6
max
10
MGA322

SOT132B

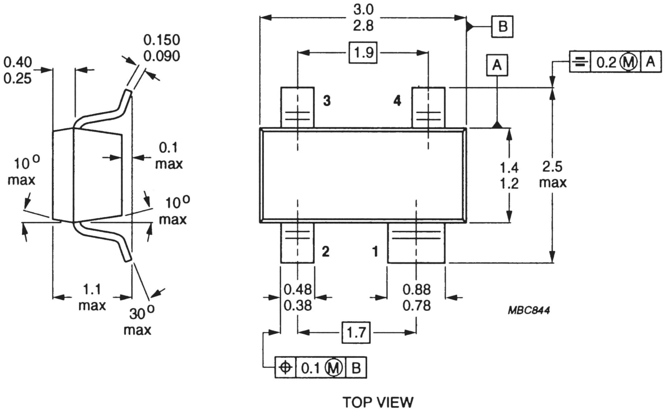

52.5
50.0
44.9
17.0
14.4
9.3
6.8
8.1
3.7
0.25
4.2
7.65
max
1 2 3 4
5 6 7
19.7
3.3
61.0
A
8.5
17.0
3.5
0.5
0.2 M A
52.5
67.5
MBC876

SOT143

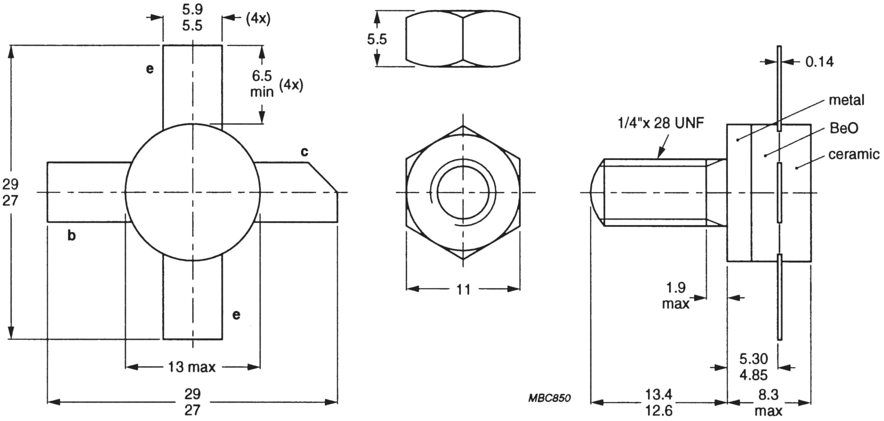

0.150
0.090
0.75
0.60
10°
max
0.1
max
10°
max
1.1
max
30°
max
3.0
2.8
B
1.9
A
0.2 M A B
4
3
1
2
1.4
1.2
2.5
max
0.88 0 -0.1
0.48 0 -0.1
0.1 M A B
1.7
MBC845
TOP VIEW

Package outlines

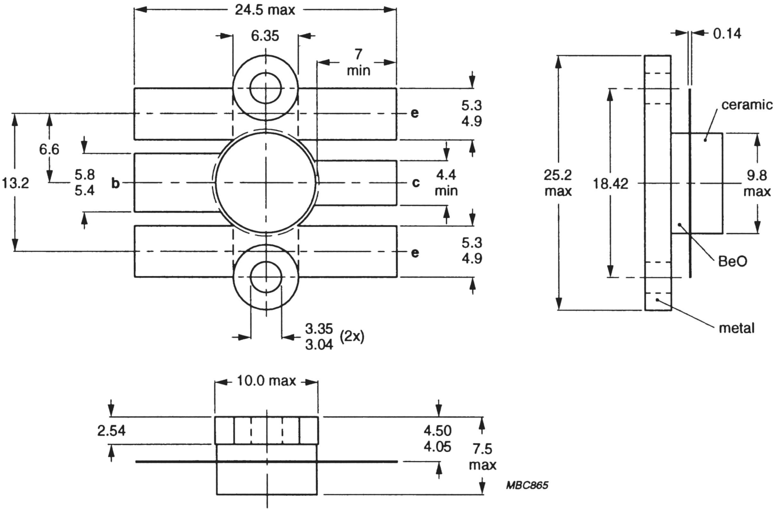
SOT143R


0.150
0.090
0.40
0.25
0.1
max
10°
max
10°
max
1.1
max
30°
max
3.0
2.8
B
1.9
A
0.2 M A
3
4
1.4
1.2
2.5
max
2
1
0.48
0.38
0.88
0.78
1.7
0.1 M B
MBC844
TOP VIEW

SOT147

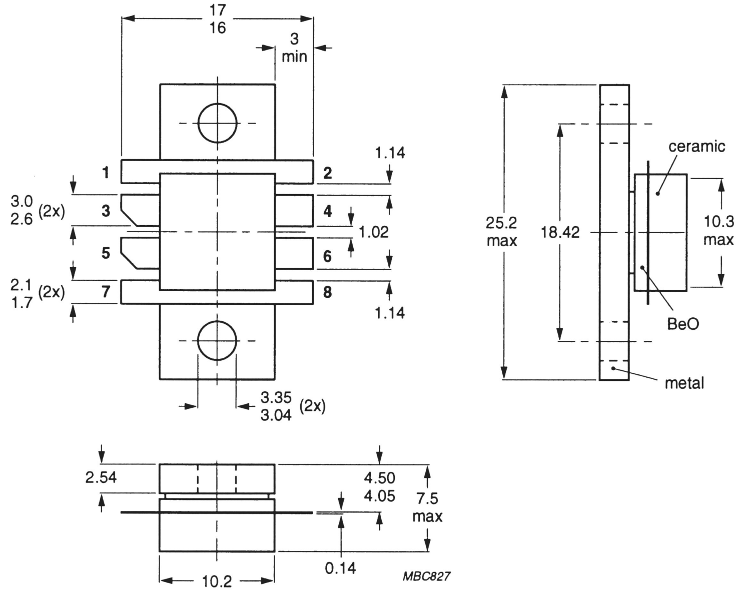

5.9
5.5
(4x)
e
6.5
min
(4x)
c
29
27
b
e
13 max
29
27
5.5
11
0.14
metal
BeO
ceramic
1/4"x 28 UNF
1.9
max
5.30
4.85
MBC850
13.4
12.6
8.3
max

SOT160

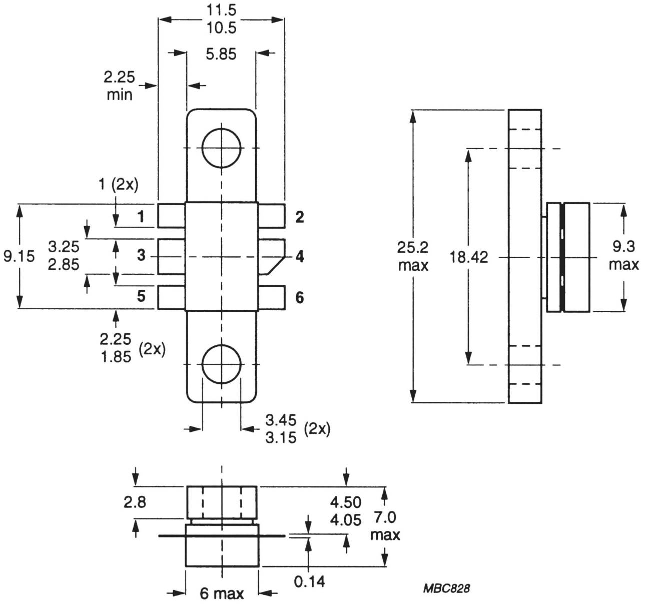

24.5 max
6.35
7
min
e
5.3
4.9
13.2
6.6
5.8
5.4
b
c
4.4
min
e
5.3
4.9
3.35
3.04
(2x)
0.14
ceramic
25.2
max
18.42
9.8
max
BeO
metal
10.0 max
2.54
4.50
4.05
7.5
max
MBC865

Package outlines

SOT161

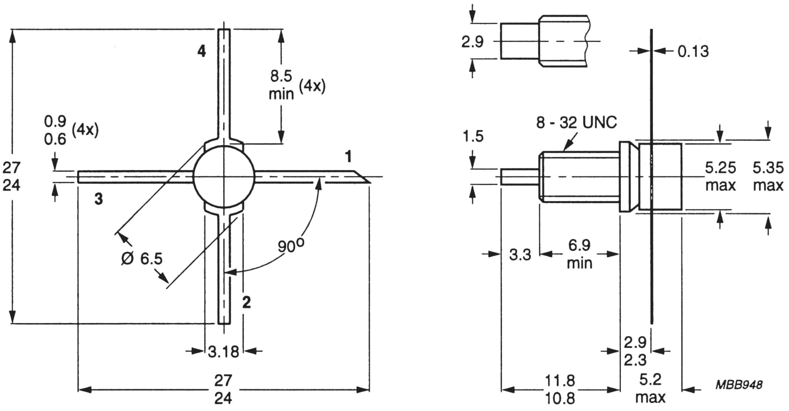

17
16
3
min
1.14
1
2
3.0
2.6 (2x)
3
4
1.02
5
6
2.1
1.7 (2x)
7
8
1.14
3.35
3.04 (2x)
25.2
max
18.42
ceramic
10.3
max
BeO
metal
2.54
4.50
4.05
7.5
max
0.14
10.2
MBC827

SOT171

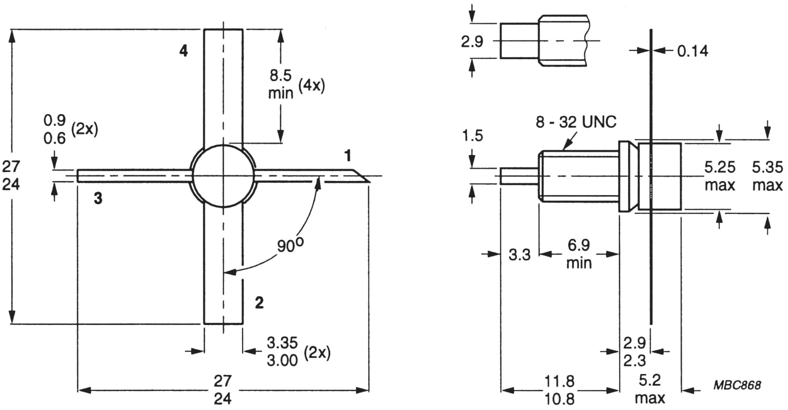

11.5
10.5
5.85
2.25
min
1 (2x)
1
2
9.15
3.25
2.85
3
4
5
6
2.25
1.85 (2x)
3.45
3.15 (2x)
25.2
max
18.42
9.3
max
2.8
4.50
4.05
7.0
max
0.14
6 max
MBC828

Package outlines

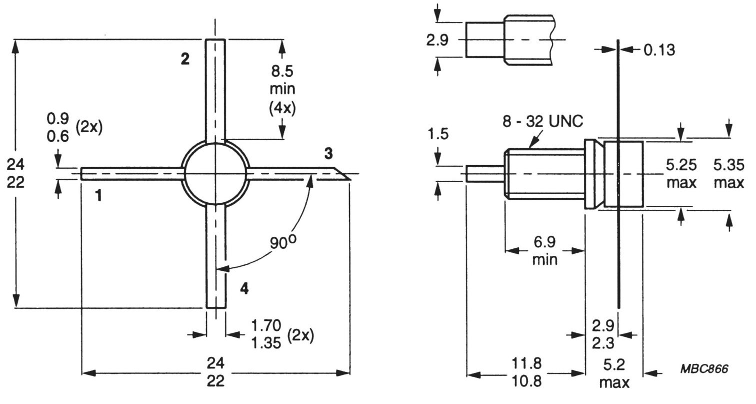
SOT172


4
8.5 min (4x)
0.9
0.6 (4x)
27
24
1
3
Ø 6.5
90°
2
3.18
27
24
2.9
0.13
8 - 32 UNC
1.5
5.25 max
5.35 max
3.3
6.9 min
2.9
2.3
11.8
10.8
5.2 max
MBB948

SOT172A1


4
8.5 min (4x)
0.9
0.6 (2x)
27
24
1
3
90°
2
3.35
3.00 (2x)
27
24
2.9
0.14
8 - 32 UNC
1.5
5.25 max
5.35 max
3.3
6.9 min
2.9
2.3
11.8
10.8
5.2 max
MBC868

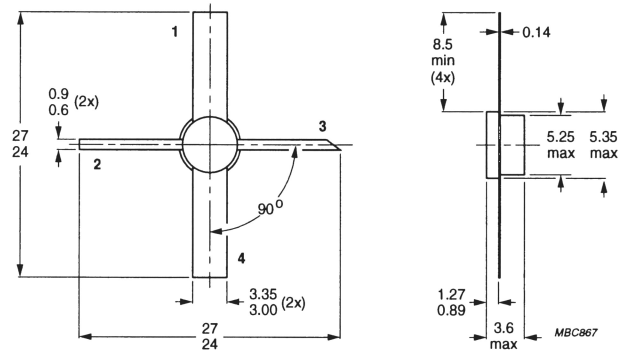
SOT172A2


2
8.5 min (4x)
0.9
0.6 (2x)
24
22
3
1
90°
4
1.70
1.35 (2x)
24
22
2.9
0.13
8 - 32 UNC
1.5
5.25 max
5.35 max
6.9 min
2.9
2.3
11.8
10.8
5.2 max
MBC866

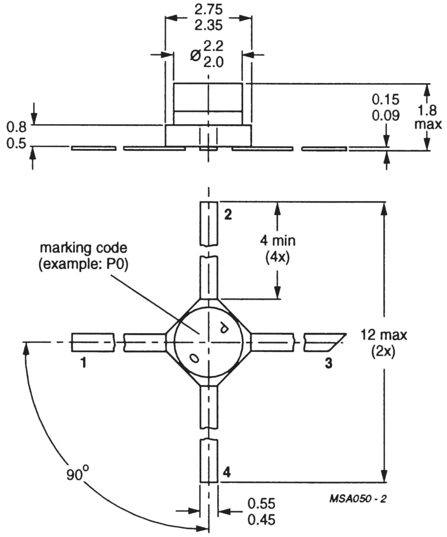
4

Package outlines

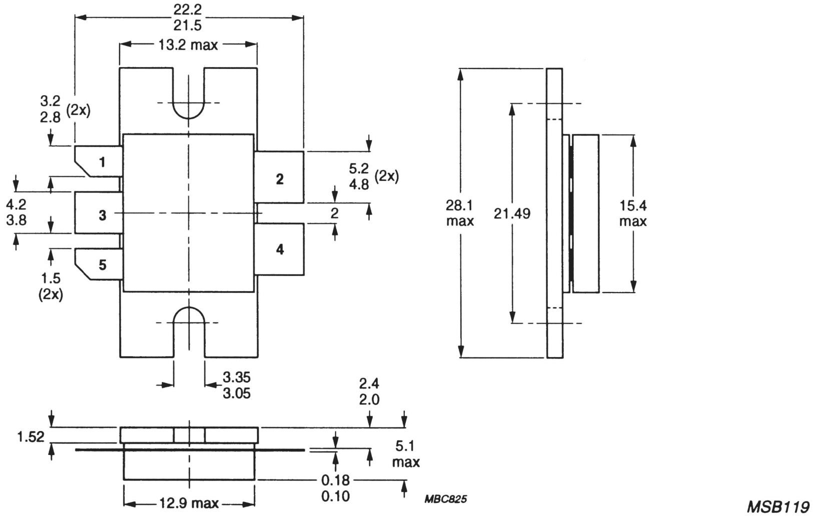
SOT172D


1
0.9
0.6 (2x)
27
24
2
3
90°
4
3.35
3.00 (2x)
27
24
8.5
min
(4x)
0.14
5.25
max
5.35
max
1.27
0.89
3.6
max
MBC867

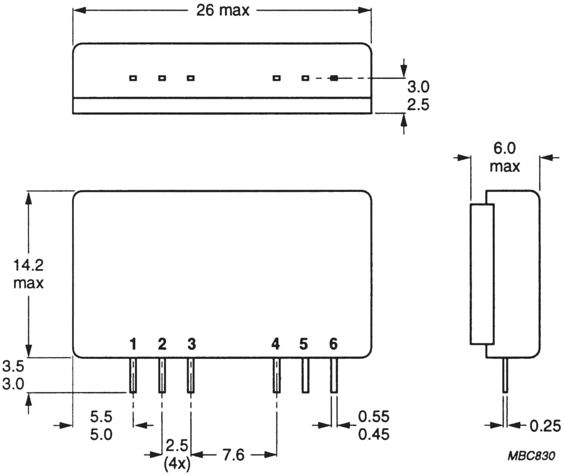
SOT173


2.75
2.35
Ø2.2
2.0
0.15
0.09
1.8
max
0.8
0.5
2
4 min
(4x)
marking code
(example: P0)
12 max
(2x)
1
3
90°
4
0.55
0.45
MSA050 - 2

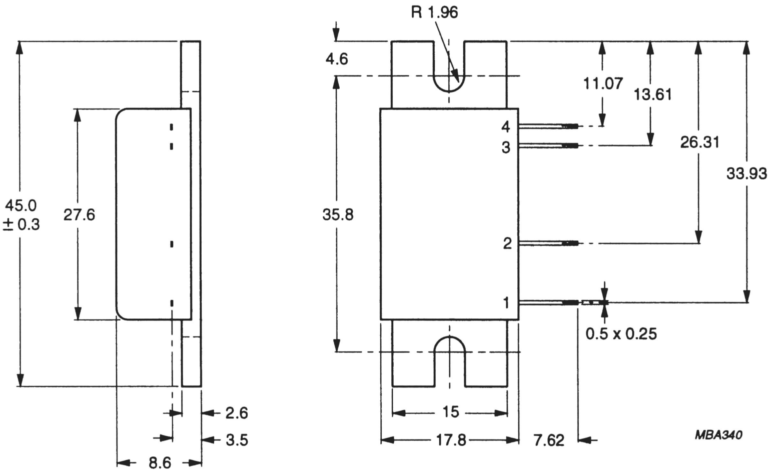
SOT179


22.2
21.5
13.2 max
3.2
2.8 (2x)
1
2
5.2
4.8 (2x)
4.2
3.8
3
2
4
5
1.5
(2x)
28.1
max
21.49
15.4
max
3.35
3.05
2.4
2.0
1.52
5.1
max
0.18
0.10
12.9 max
MBC825
MSB119

SOT181

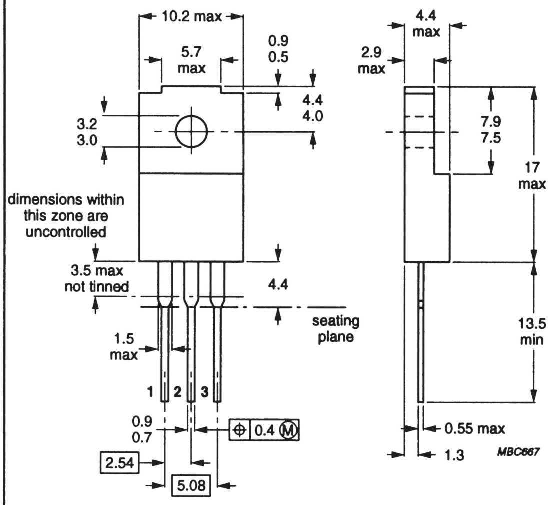

26 max
3.0
2.5
6.0
max
14.2
max
1
2
3
4
5
6
3.5
3.0
5.5
5.0
2.5
(4x)
7.6
0.55
0.45
0.25
MBC830

SOT183A

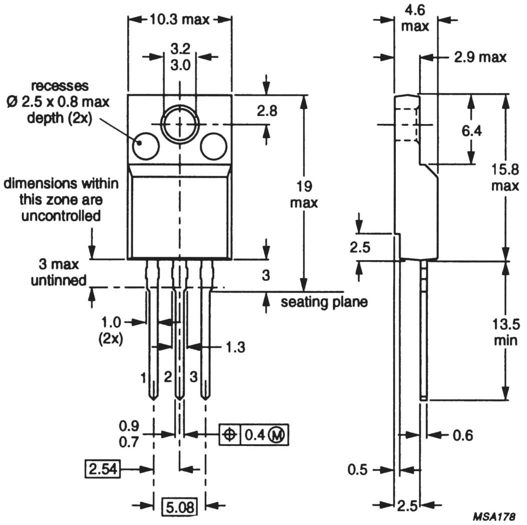

R 1.96
4.6
11.07
13.61
26.31
33.93
4
3
2
1
45.0
± 0.3
27.6
35.8
0.5 x 0.25
2.6
3.5
8.6
15
17.8
7.62
MBA340

Package outlines

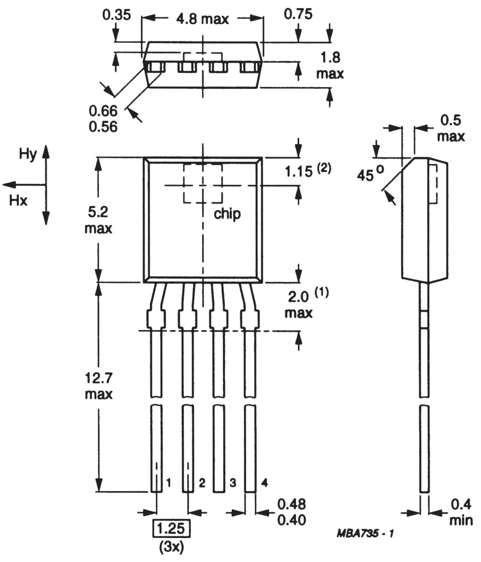
SOT186


10.2 max
5.7
max
0.9
0.5
4.4
max
2.9
max
4.4
4.0
3.2
3.0
7.9
7.5
17
max
dimensions within
this zone are
uncontrolled
3.5 max
not tinned
4.4
seating
plane
1.5
max
13.5
min
1
2
3
0.9
0.7
0.4 M
0.55 max
1.3
2.54
5.08
MBC667

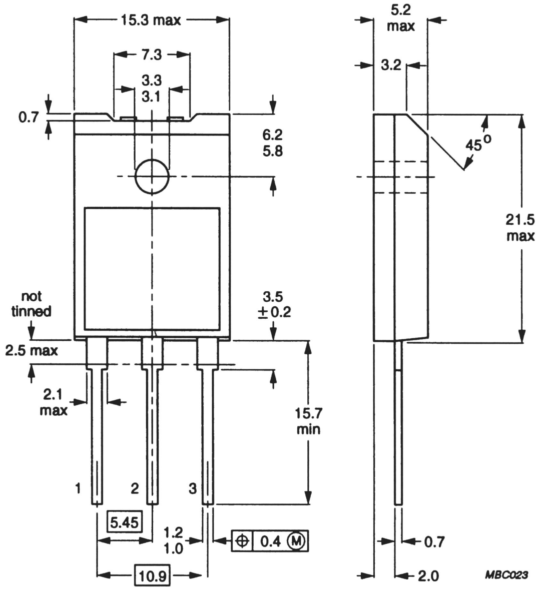
SOT186A


10.3 max
4.6
max
3.2
3.0
2.9 max
recesses
Ø 2.5 x 0.8 max
depth (2x)
2.8
6.4
15.8
max
dimensions within
this zone are
uncontrolled
19
max
2.5
3 max
untinned
3
seating plane
1.0
(2x)
1.3
13.5
min
1
2
3
0.9
0.7
0.4 M
0.6
2.54
0.5
5.08
2.5
MSA178

SOT195


0.35
4.8 max
0.75
1.8
max
0.66
0.56
0.5
max
Hy
Hx
1.15 (2)
45°
chip
5.2
max
2.0 (1)
max
12.7
max
1
2
3
4
0.48
0.40
0.4
min
1.25
(3x)
MBA735 - 1

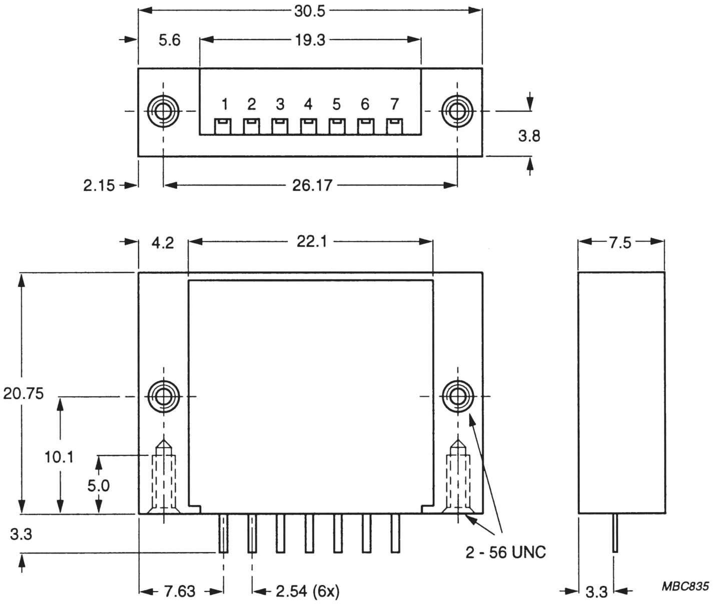
SOT199


15.3 max
5.2
max
7.3
3.2
3.3
3.1
0.7
6.2
5.8
45°
21.5
max
not
tinned
3.5
±0.2
2.5 max
2.1
max
15.7
min
1
2
3
5.45
1.2
1.0
0.4 M
0.7
10.9
2.0
MBC023

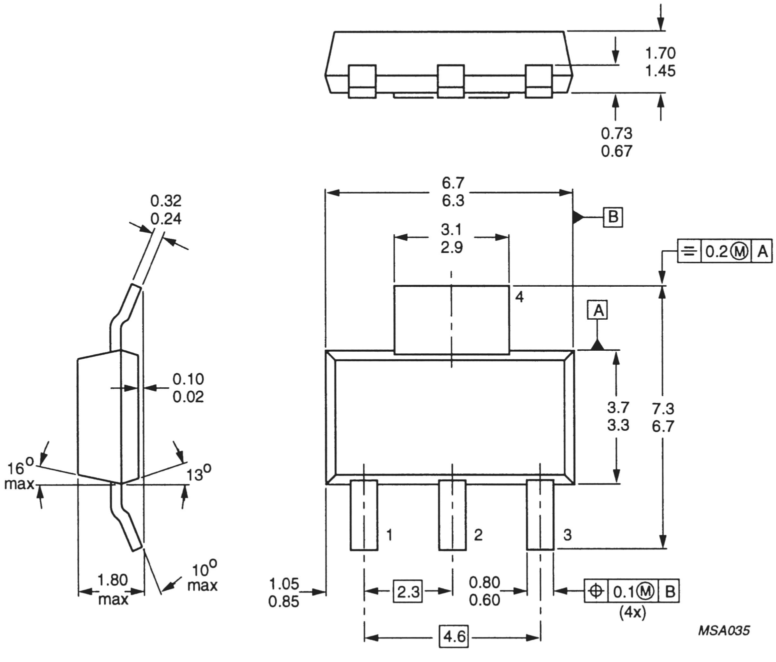
DISCRETE SEMICONDUCTORS

Package outlines

SOT200

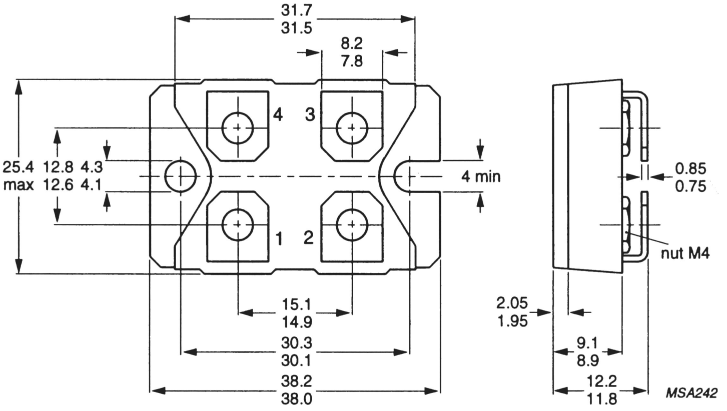

30.5
5.6
19.3
1
2
3
4
5
6
7
3.8
2.15
26.17
4.2
22.1
7.5
20.75
10.1
5.0
3.3
2 - 56 UNC
7.63
2.54 (6x)
3.3
MBC835

SOT223

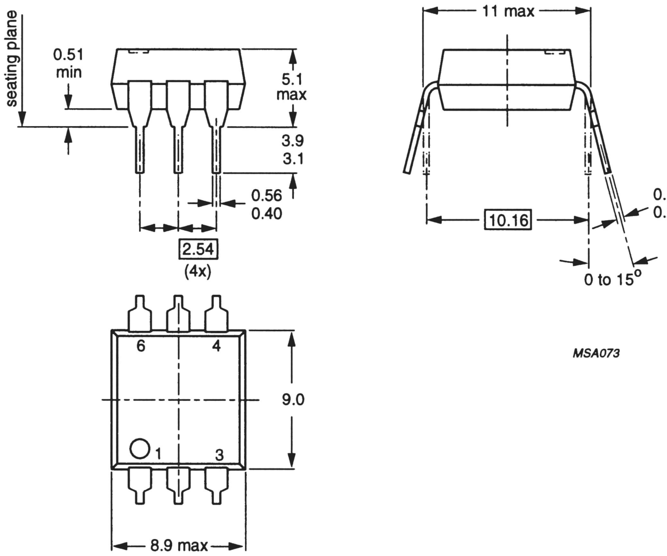

1.70
1.45
0.73
0.67
6.7
6.3
B
3.1
2.9
0.2 M A
4
A
3.7
3.3
7.3
6.7
0.32
0.24
0.10
0.02
16° max
13°
1.80 max
10° max
1
2
3
1.05
0.85
2.3
0.80
0.60
0.1 M B
(4x)
4.6
MSA035

Package outlines

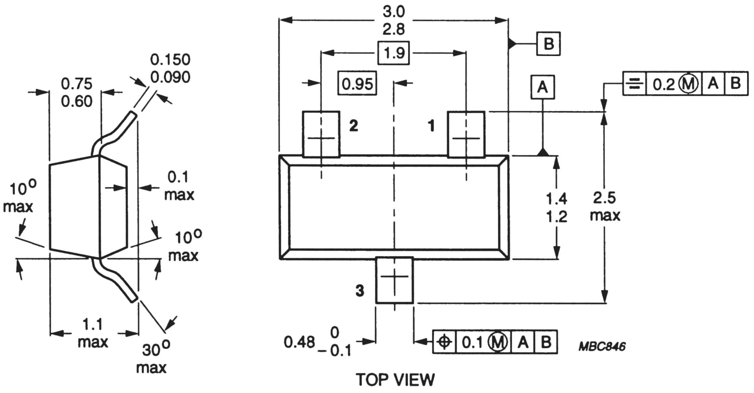
SOT227B


31.7
31.5
8.2
7.8
4
3
1
2
25.4
max
12.8
12.6
4.3
4.1
4 min
0.85
0.75
nut M4
15.1
14.9
30.3
30.1
38.2
38.0
2.05
1.95
9.1
8.9
12.2
11.8
MSA242

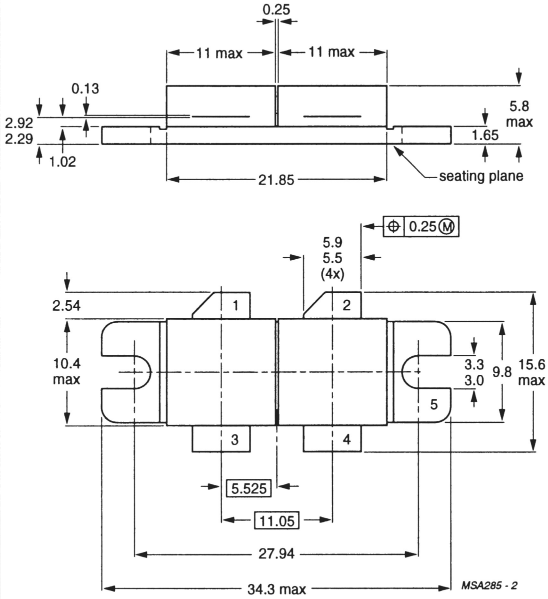
SOT228D


seating plane
0.51
min
5.1
max
3.9
3.1
0.56
0.40
2.54
(4x)
11 max
10.16
0.3
0.2
0 to 15°
6
4
1
3
9.0
8.9 max
MSA073

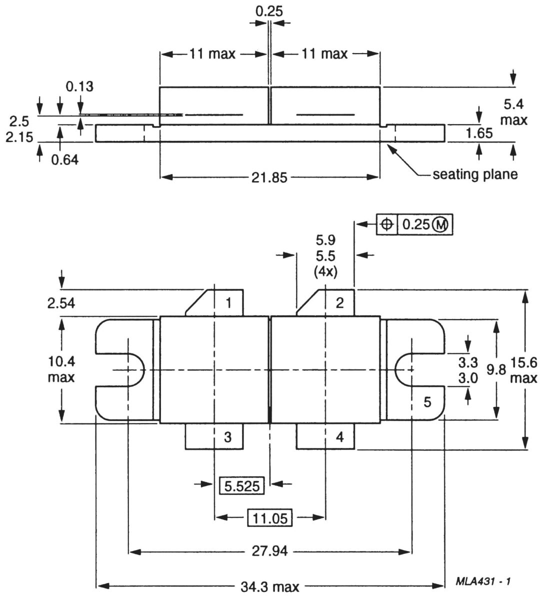
SOT23


0.150
0.090
0.75
0.60
0.1
max
10°
max
10°
max
1.1
max
30°
max
3.0
2.8
1.9
0.95
B
A
0.2 M A B
2
1
3
1.4
1.2
2.5
max
0.48 0 −0.1
0.1 M A B
MBC846
TOP VIEW

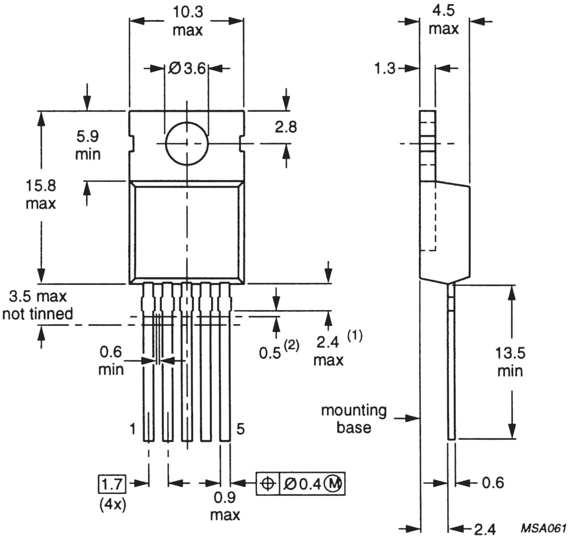
SOT262A1


0.25
11 max
11 max
0.13
2.92
2.29
1.02
5.8
max
1.65
21.85
seating plane
⊕ 0.25 Ⓜ
5.9
5.5
(4x)
2.54
1
2
10.4
max
3.3
3.0
9.8
15.6
max
5
3
4
5.525
11.05
27.94
34.3 max
MSA285 - 2

SOT262A2

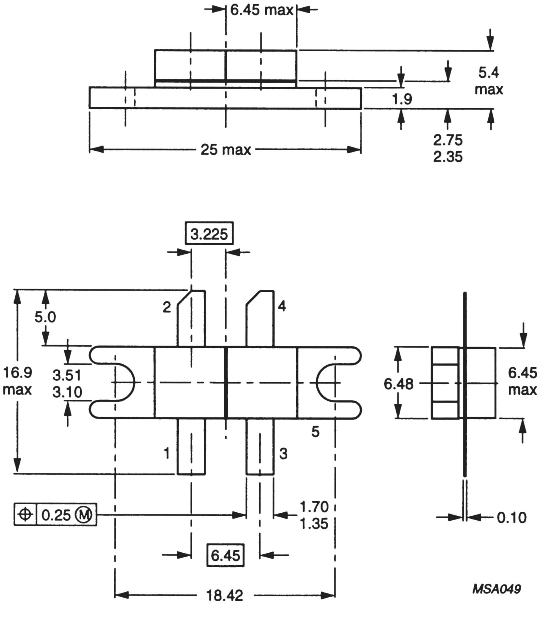

0.25
11 max
11 max
0.13
2.5
2.15
0.64
5.4
max
1.65
21.85
seating plane
⊕ 0.25 Ⓜ
5.9
5.5
(4x)
2.54
1
2
10.4
max
3.3
3.0
9.8
15.6
max
5
3
4
5.525
11.05
27.94
34.3 max
MLA431 - 1

SOT263

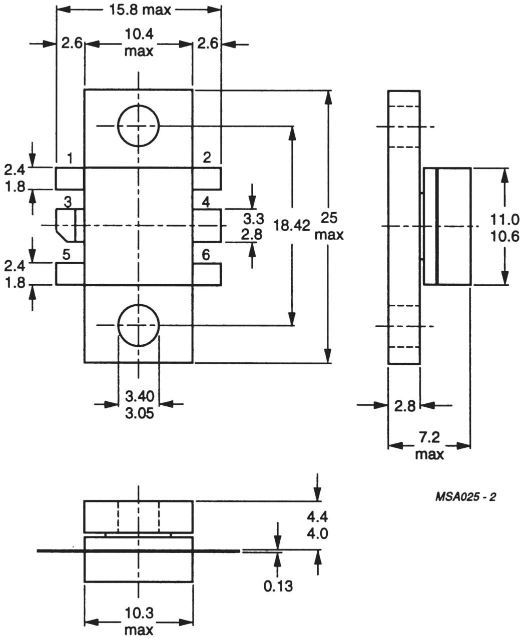

10.3
max
Ø3.6
5.9
min
2.8
15.8
max
3.5 max
not tinned
0.6
min
0.5 (2)
2.4 (1)
max
1
5
1.7
(4x)
0.9
max
⊕ Ø0.4 Ⓜ
4.5
max
1.3
13.5
min
mounting
base
0.6
2.4
MSA061

Package outlines

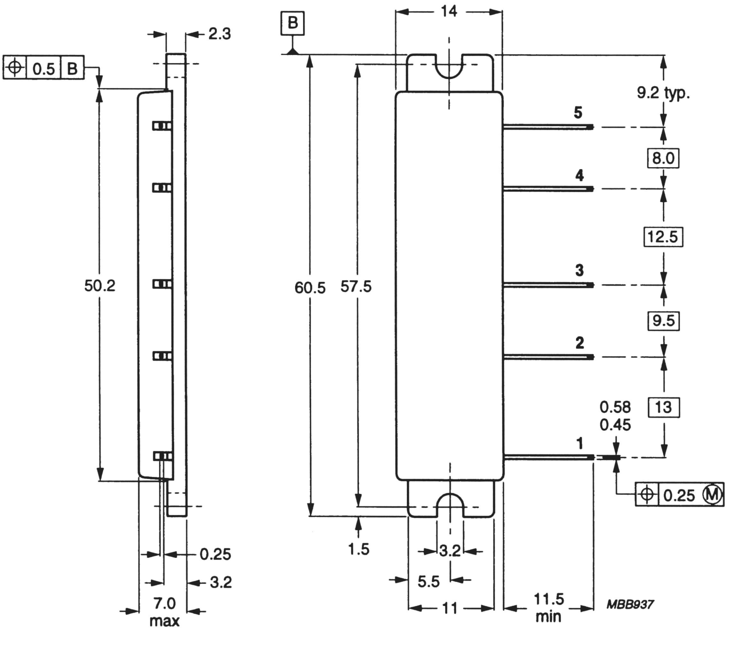
SOT268


6.45 max
5.4
max
1.9
2.75
2.35
25 max
3.225
2
4
5.0
16.9
max
3.51
3.10
1
3
5
6.48
6.45
max
0.25 Ⓜ
1.70
1.35
0.10
6.45
18.42
MSA049

SOT273

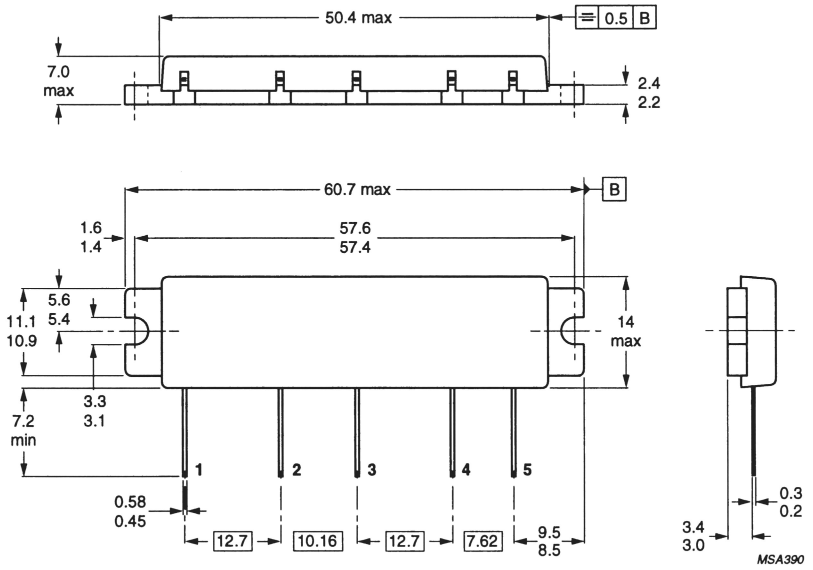

15.8 max
2.6
10.4
max
2.6
2.4
1.8
1
2
3
4
3.3
2.8
18.42
25
max
5
6
2.4
1.8
3.40
3.05
11.0
10.6
2.8
7.2
max
MSA025 - 2
4.4
4.0
0.13
10.3
max

SOT278

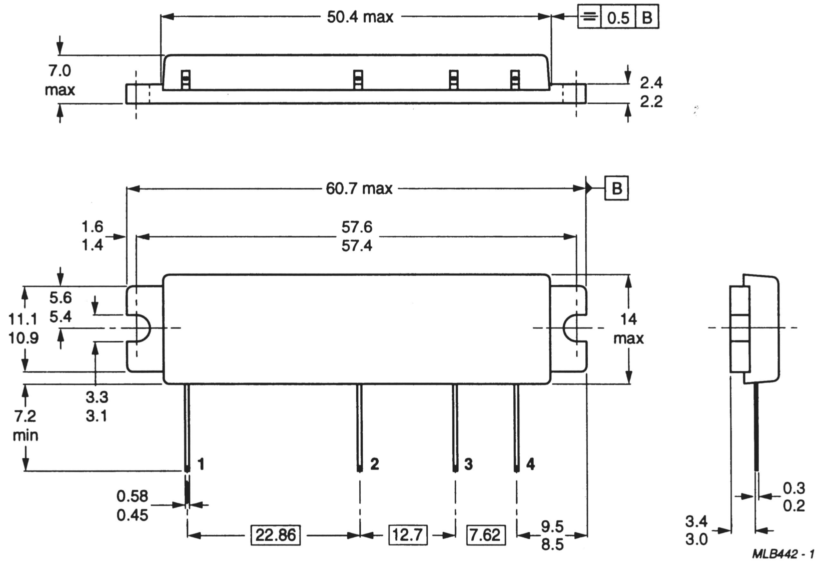

2.3
0.5
B
B
14
9.2 typ.
5
8.0
4
12.5
50.2
60.5
57.5
3
9.5
2
0.58
0.45
13
1
0.25 Ⓜ
1.5
3.2
0.25
3.2
5.5
7.0
max
11
11.5
min
MBB937

Package outlines

SOT278A

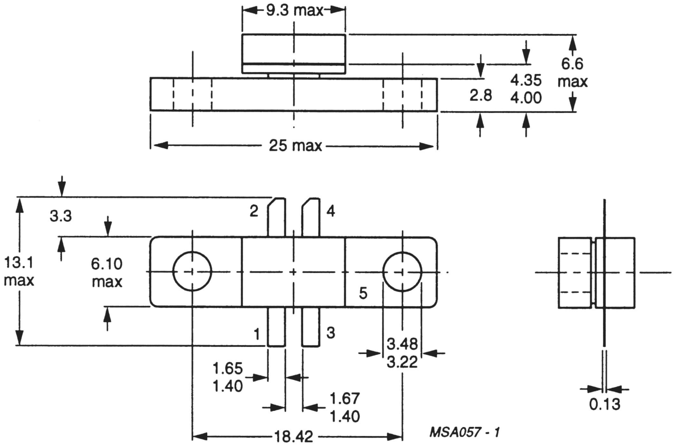

50.4 max
0.5
B
7.0
max
2.4
2.2
60.7 max
B
1.6
1.4
57.6
57.4
5.6
5.4
11.1
10.9
14
max
3.3
3.1
7.2
min
1
2
3
4
5
0.58
0.45
12.7
10.16
12.7
7.62
9.5
8.5
0.3
0.2
3.4
3.0
MSA390

SOT278B

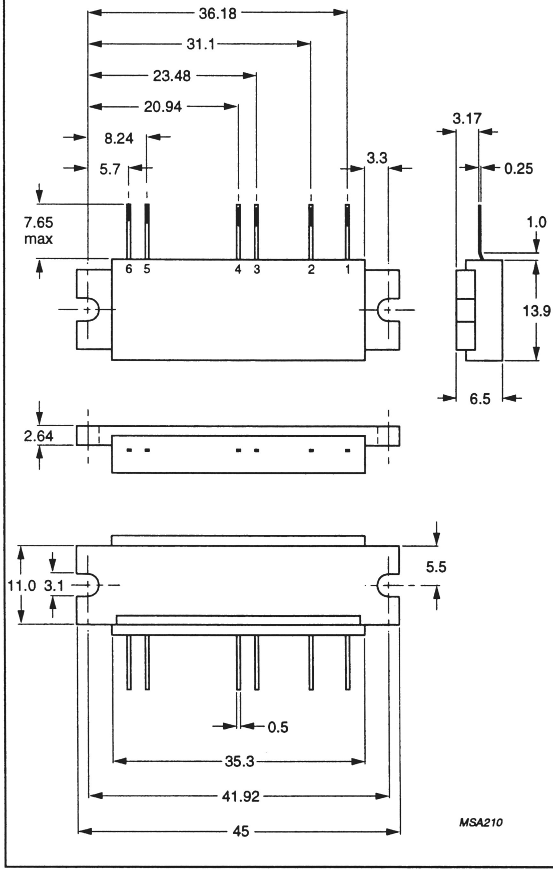

50.4 max
0.5
B
7.0
max
2.4
2.2
60.7 max
B
1.6
1.4
57.6
57.4
5.6
5.4
11.1
10.9
14
max
3.3
3.1
7.2
min
1
2
3
4
0.58
0.45
22.86
12.7
7.62
9.5
8.5
0.3
0.2
3.4
3.0
MLB442 - 1

Package outlines

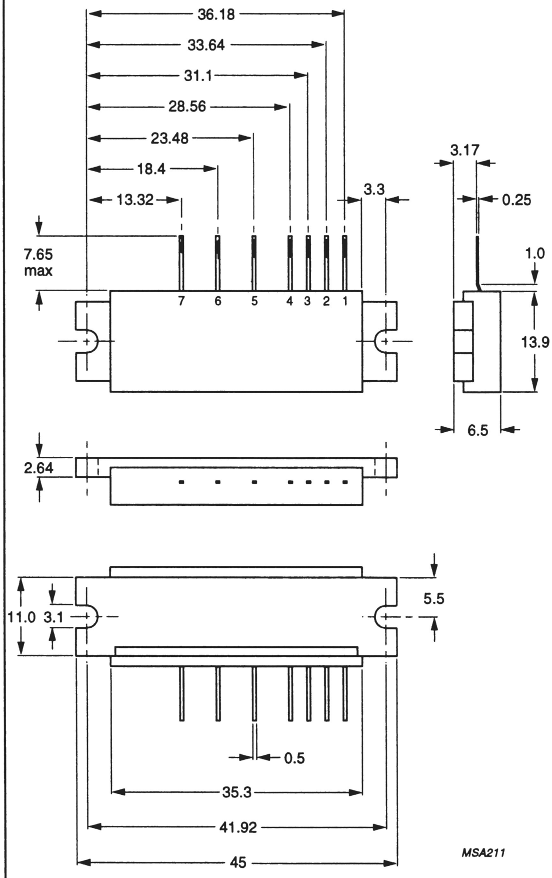
SOT279


9.3 max
6.6 max
4.35
4.00
2.8
25 max
3.3
13.1 max
6.10 max
2
4
5
1
3
3.48
3.22
1.65
1.40
1.67
1.40
18.42
0.13
MSA057 - 1

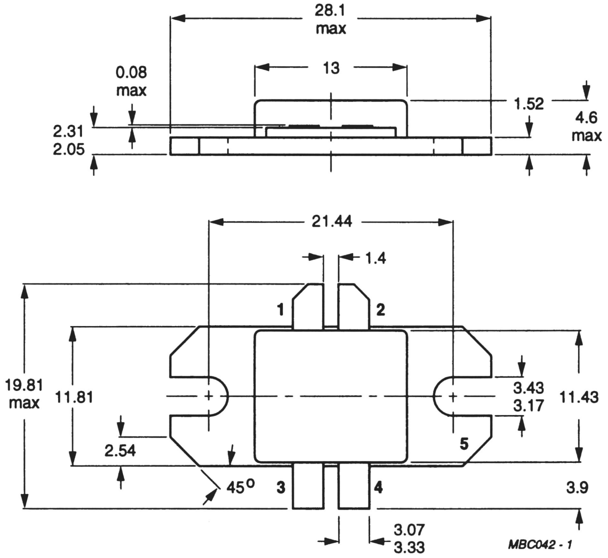
SOT88C


36.18
31.1
23.48
20.94
8.24
5.7
3.3
3.17
0.25
7.65 max
1.0
6
5
4
3
2
1
13.9
6.5
2.64
11.0
3.1
5.5
0.5
35.3
41.92
45
MSA210

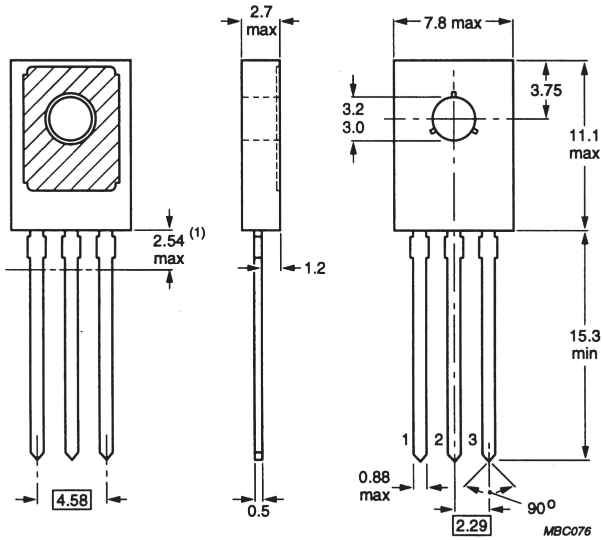
SOT88D


36.18
33.64
31.1
28.56
23.48
18.4
13.32
3.3
3.17
0.25
7.65 max
1.0
7
6
5
4
3
2
1
13.9
6.5
2.64
11.0
3.1
5.5
0.5
35.3
41.92
45
MSA211

SOT289

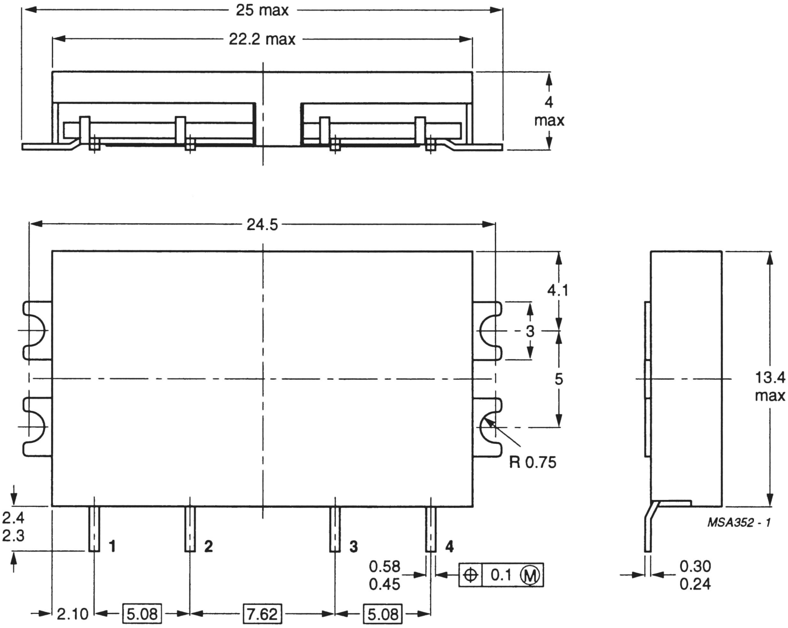

28.1
max
13
0.08
max
1.52
4.6
max
2.31
2.05
21.44
1.4
1
2
19.81
max
11.81
3.43
3.17
11.43
2.54
5
45°
3
4
3.9
3.07
3.33
MBC042 - 1

SOT32

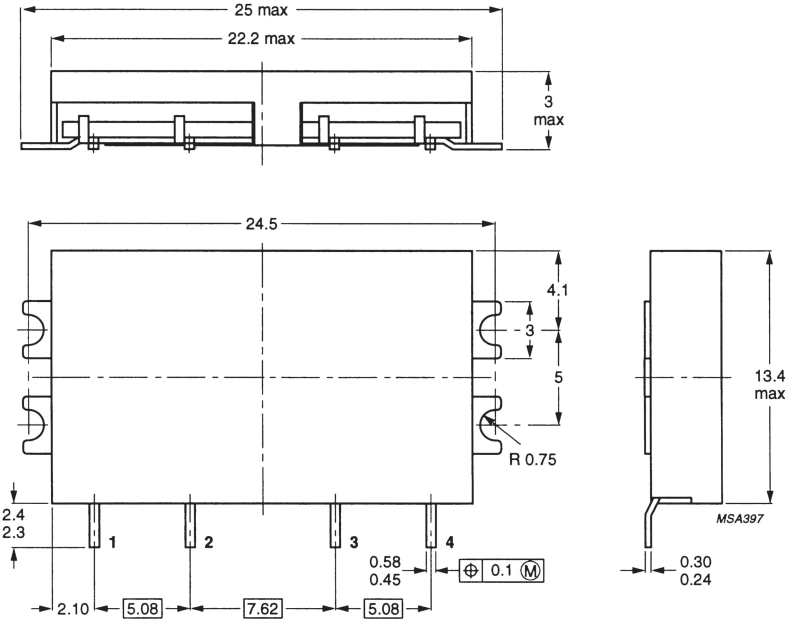

2.7
max
7.8 max
3.75
3.2
3.0
11.1
max
2.54 (1)
max
1.2
15.3
min
1
2
3
0.88
max
4.58
0.5
2.29
90°
MBC076

Package outlines

SOT321A

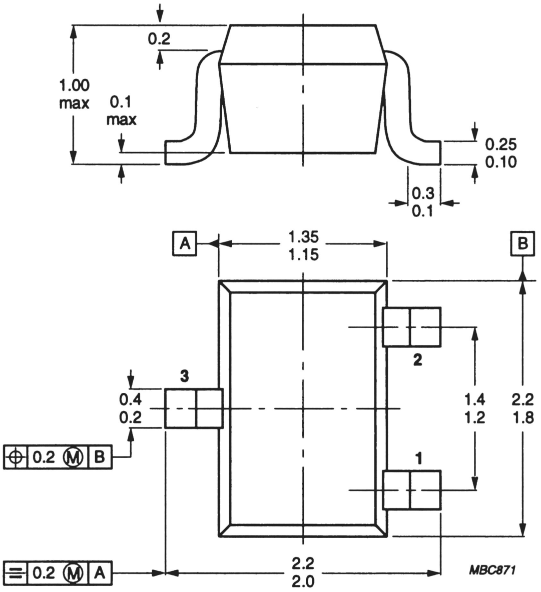

25 max
22.2 max
4
max
24.5
4.1
3
5
13.4
max
R 0.75
2.4
2.3
1
2
3
4
0.58
0.45
⊕ 0.1 Ⓜ
0.30
0.24
2.10
5.08
7.62
5.08
MSA352 - 1

SOT321B

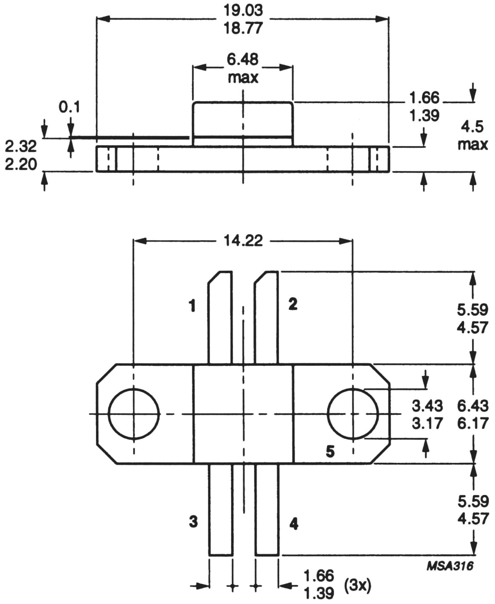

25 max
22.2 max
3
max
24.5
4.1
3
5
13.4
max
R 0.75
2.4
2.3
1
2
3
4
0.58
0.45
⊕ 0.1 Ⓜ
0.30
0.24
2.10
5.08
7.62
5.08
MSA397

Package outlines

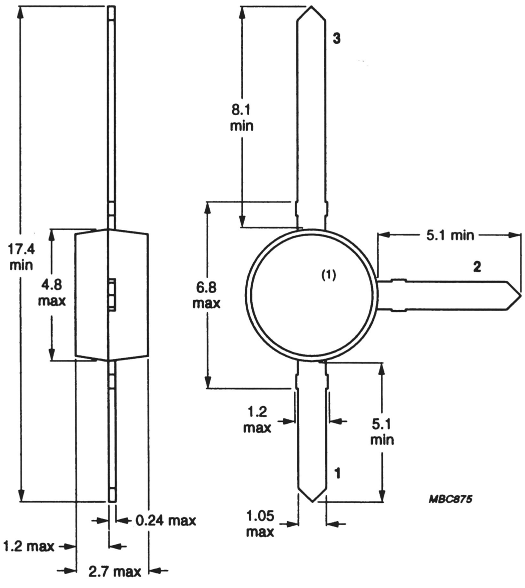
SOT323


0.2
1.00
max
0.1
max
0.25
0.10
0.3
0.1
A
1.35
1.15
B
2
3
0.4
0.2
1.4
1.2
2.2
1.8
0.2 Ⓜ B
1
0.2 Ⓜ A
2.2
2.0
MBC871

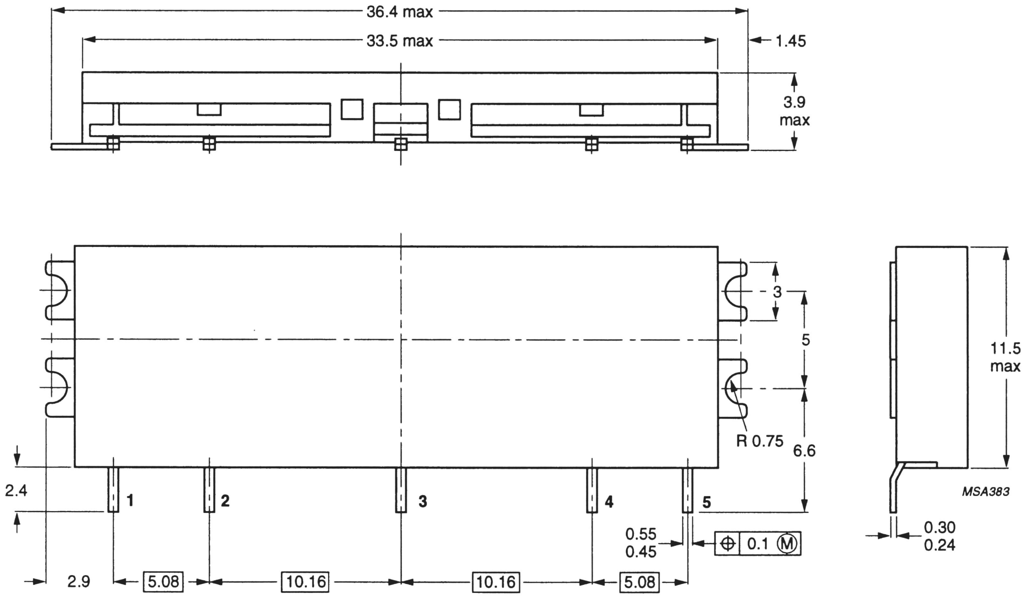
SOT324


19.03
18.77
6.48
max
0.1
1.66
1.39
4.5
max
2.32
2.20
14.22
1
2
5.59
4.57
3.43
3.17
6.43
6.17
5
3
4
5.59
4.57
MSA316
1.66
1.39
(3x)

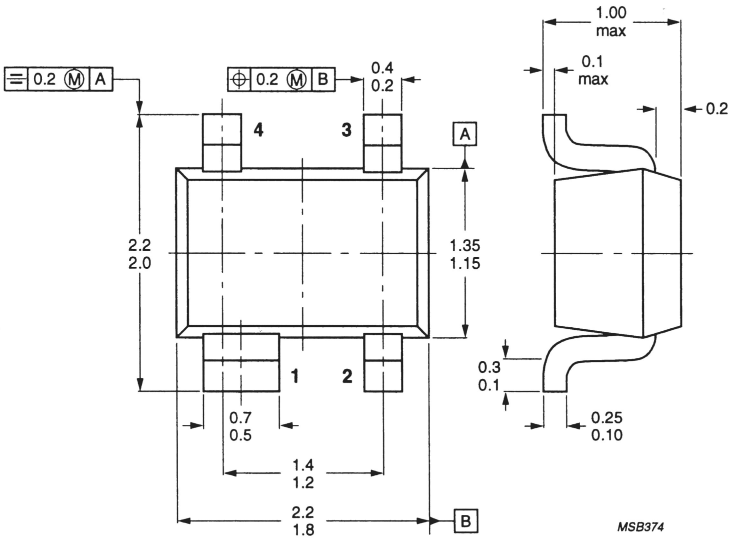
SOT37


3
8.1
min
17.4
min
4.8
max
6.8
max
5.1 min
(1)
2
1.2
max
5.1
min
1
MBC875
0.24 max
1.05
max
1.2 max
2.7 max

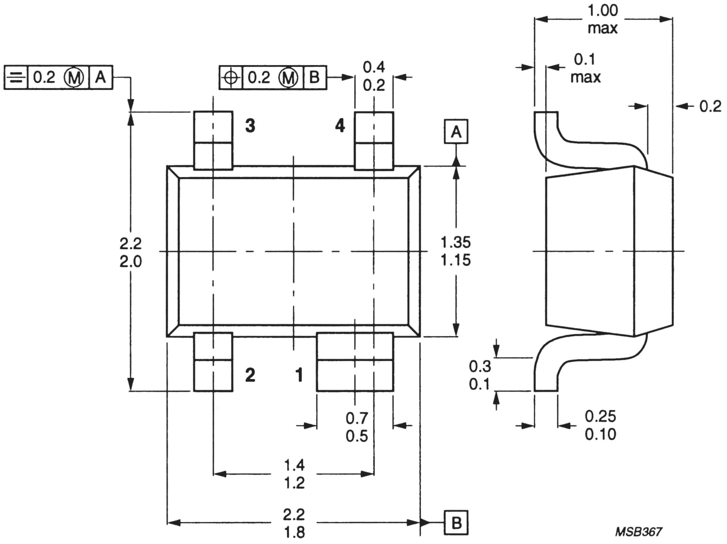
SOT342


36.4 max
33.5 max
1.45
3.9
max
3
5
11.5
max
R 0.75
6.6
2.4
1
2
3
4
5
0.55
0.45
⊕ 0.1 Ⓜ
0.30
0.24
2.9
5.08
10.16
10.16
5.08
MSA383

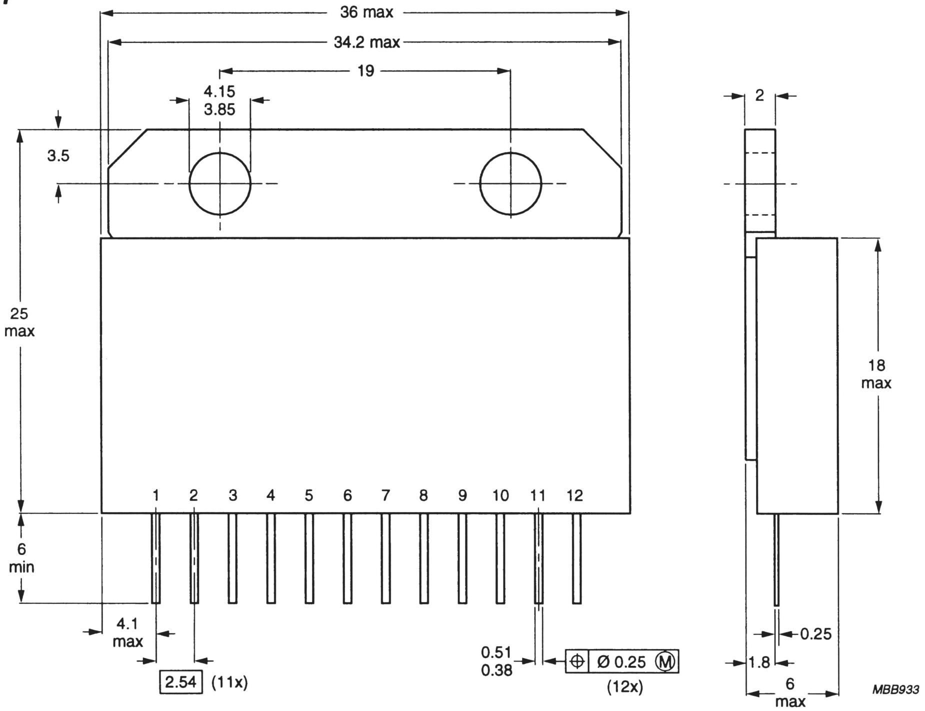
SOT343


≡ 0.2 Ⓜ A
⊕ 0.2 Ⓜ B
0.4
0.2
1.00
max
0.1
max
0.2
4
3
A
2.2
2.0
1.35
1.15
1
2
0.3
0.1
0.25
0.10
0.7
0.5
1.4
1.2
2.2
1.8
B
MSB374

SOT343R

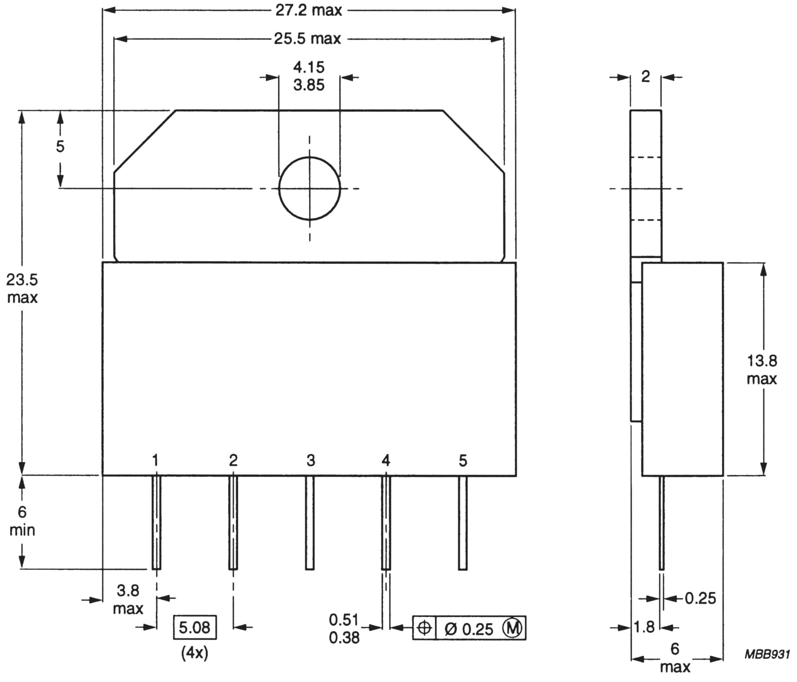

1.00
max
0.1
max
0.2
0.2 M A
0.2 M B
0.4
0.2
3
4
A
2.2
2.0
1.35
1.15
2
1
0.3
0.1
0.7
0.5
0.25
0.10
1.4
1.2
2.2
1.8
B
MSB367

SOT347

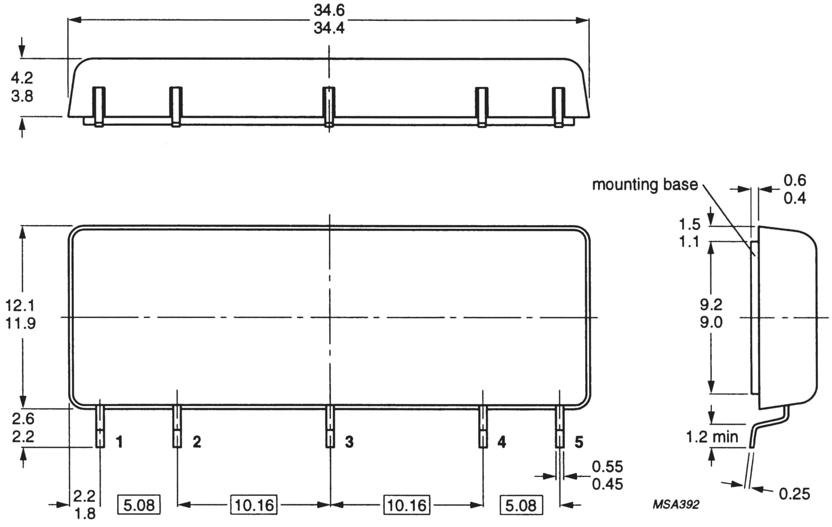

36 max
34.2 max
19
4.15
3.85
2
3.5
25
max
18
max
1
2
3
4
5
6
7
8
9
10
11
12
6
min
4.1
max
2.54
(11x)
0.51
0.38
Ø 0.25 M
(12x)
0.25
1.8
6
max
MBB933

Package outlines

SOT348

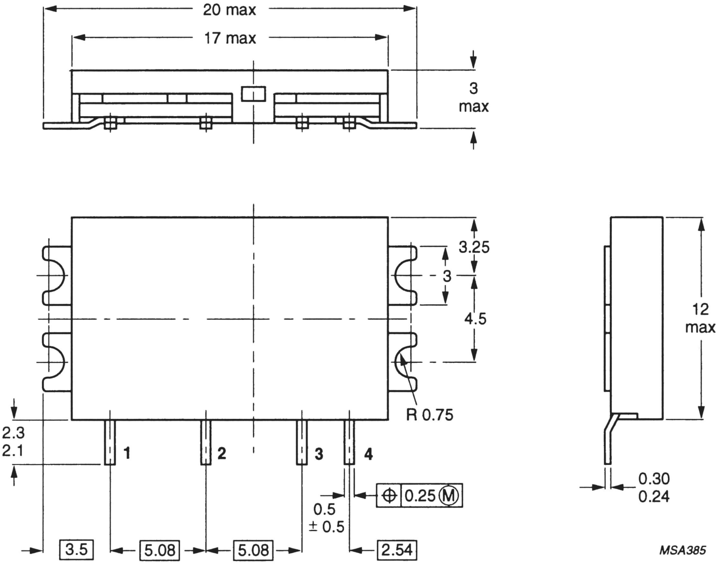

27.2 max
25.5 max
4.15
3.85
5
23.5
max
1
2
3
4
5
6
min
3.8
max
5.08
(4x)
0.51
0.38
⊕ Ø 0.25 Ⓜ
2
13.8
max
0.25
1.8
6
max
MBB931

SOT350

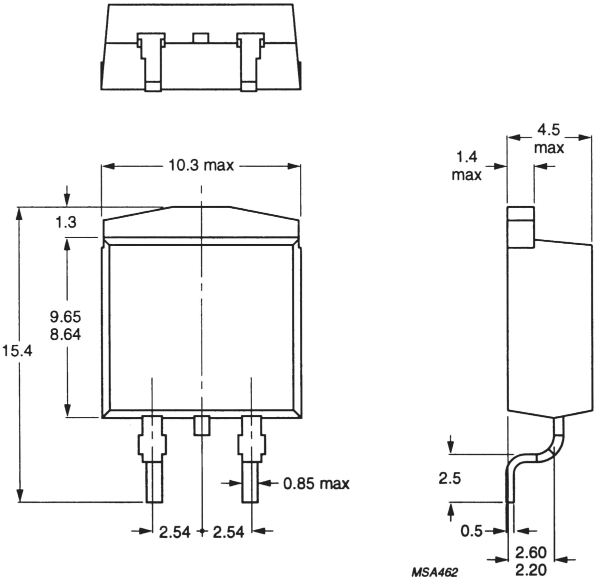

34.6
34.4
4.2
3.8
mounting base
0.6
0.4
1.5
1.1
12.1
11.9
9.2
9.0
2.6
2.2
1
2
3
4
5
1.2 min
0.55
0.45
0.25
2.2
1.8
5.08
10.16
10.16
5.08
MSA392

Package outlines

SOT359

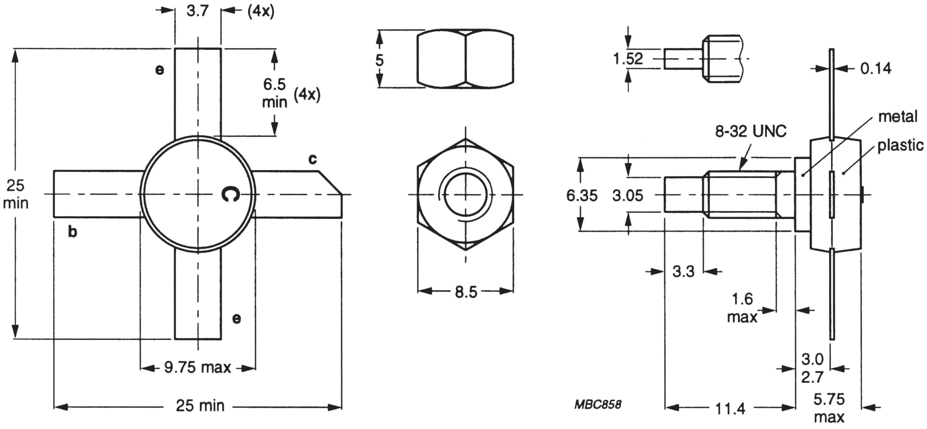

20 max
17 max
3
max
3.25
3
4.5
12
max
R 0.75
2.3
2.1
1
2
3
4
0.25 Ⓜ
0.5
± 0.5
0.30
0.24
3.5
5.08
5.08
2.54
MSA385

SOT404

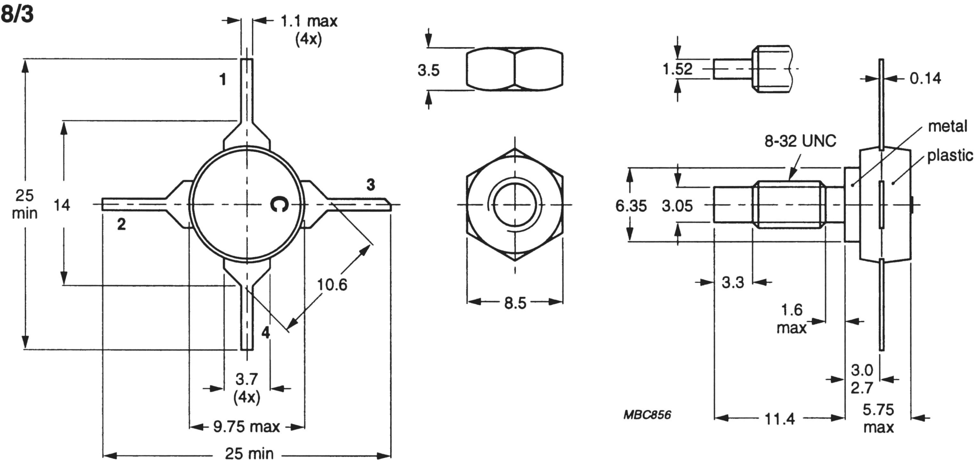

10.3 max
1.3
9.65
8.64
15.4
0.85 max
2.54
2.54
4.5
max
1.4
max
2.5
0.5
2.60
2.20
MSA462

Package outlines

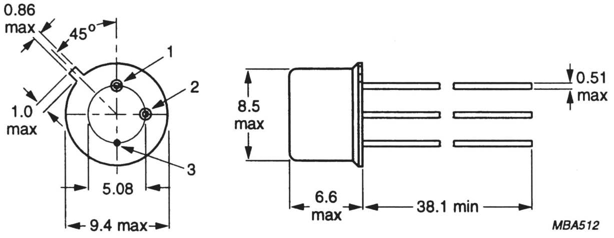
SOT48/2


3.7
(4x)
e
6.5
min
(4x)
c
25
min
C
b
e
9.75 max
25 min
5
8.5
1.52
0.14
metal
8-32 UNC
plastic
6.35
3.05
3.3
1.6
max
3.0
2.7
MBC858
11.4
5.75
max

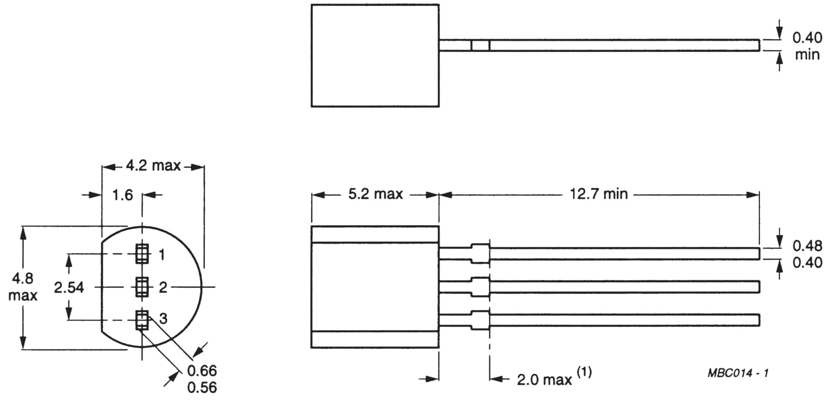
SOT48/3


1.1 max
(4x)
1
25
min
14
2
C
3
10.6
4
3.7
(4x)
9.75 max
25 min
3.5
8.5
1.52
0.14
metal
8-32 UNC
plastic
6.35
3.05
3.3
1.6
max
3.0
2.7
MBC856
11.4
5.75
max

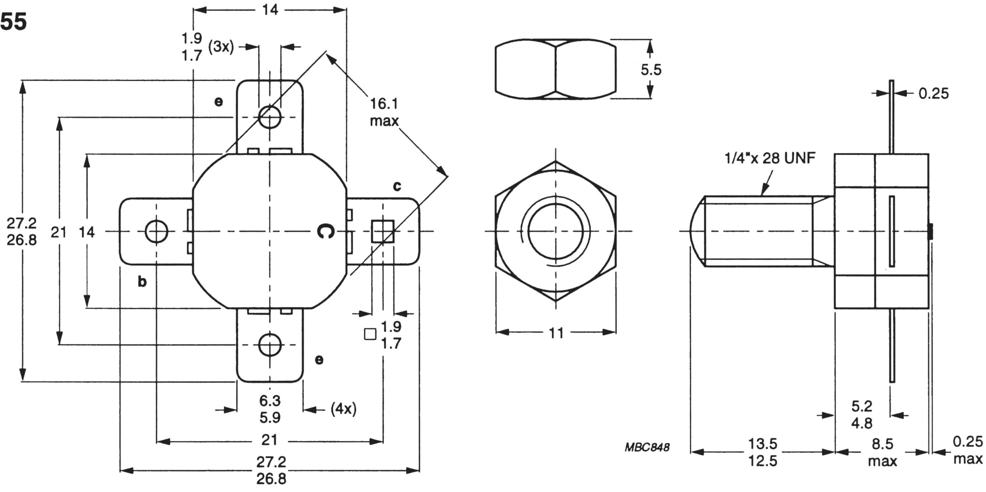
SOT5/12


0.86
max
45°
1
2
1.0
max
3
5.08
9.4 max
8.5
max
0.51
max
6.6
max
38.1 min
MBA512

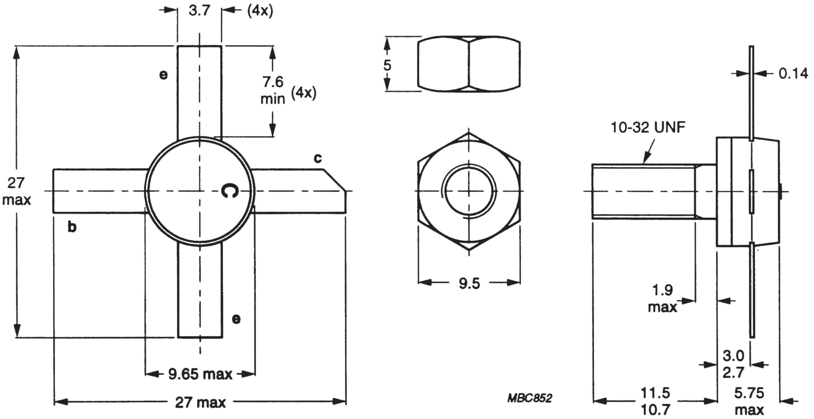
SOT54


0.40
min
4.2 max
1.6
5.2 max
12.7 min
0.48
0.40
4.8
max
2.54
1
2
3
0.66
0.56
2.0 max (1)
MBC014 - 1

SOT55

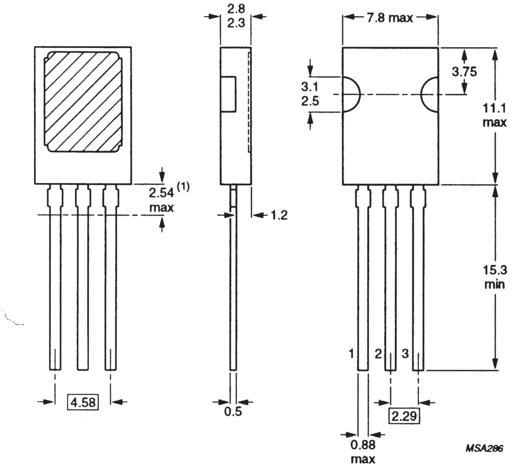

14
1.9
1.7
(3x)
16.1
max
e
5.5
0.25
1/4"x 28 UNF
c
27.2
26.8
21
14
C
b
1.9
1.7
e
11
6.3
5.9
(4x)
21
27.2
26.8
MBC848
13.5
12.5
5.2
4.8
8.5
max
0.25
max

SOT56

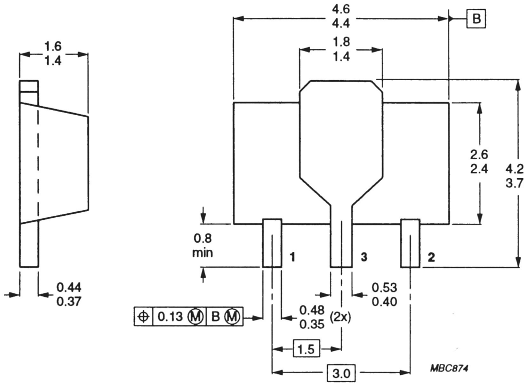

3.7
(4x)
5
7.6
min
(4x)
e
0.14
10-32 UNF
c
27
max
C
b
9.5
1.9
max
e
9.65 max
3.0
2.7
27 max
MBC852
11.5
10.7
5.75
max

Package outlines

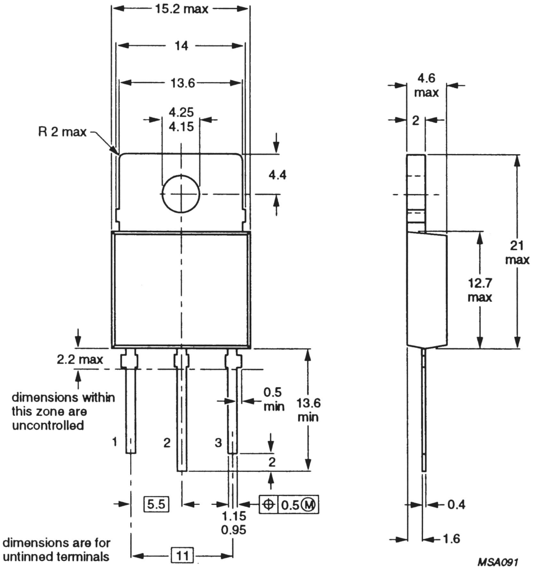
SOT82


2.8
2.3
7.8 max
3.1
2.5
3.75
11.1
max
2.54 (1)
max
1.2
15.3
min
1
2
3
4.58
0.5
2.29
0.88
max
MSA286

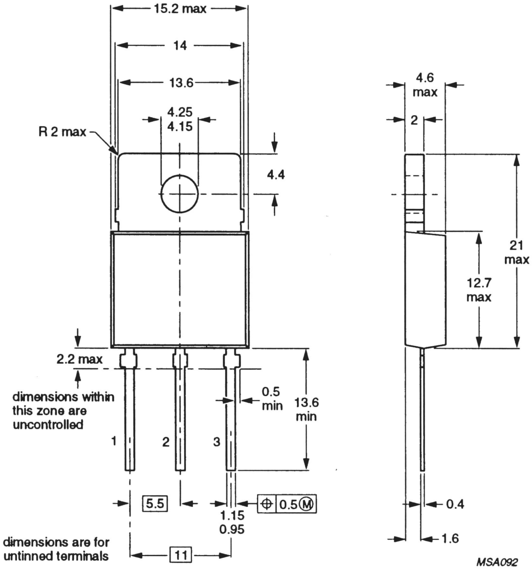
SOT89


4.6
4.4
B
1.8
1.4
1.6
1.4
2.6
2.4
4.25
3.75
0.8
min
1
3
2
0.44
0.37
0.53
0.40
0.13 M B M
0.48
0.35
(2x)
1.5
3.0
MBC874

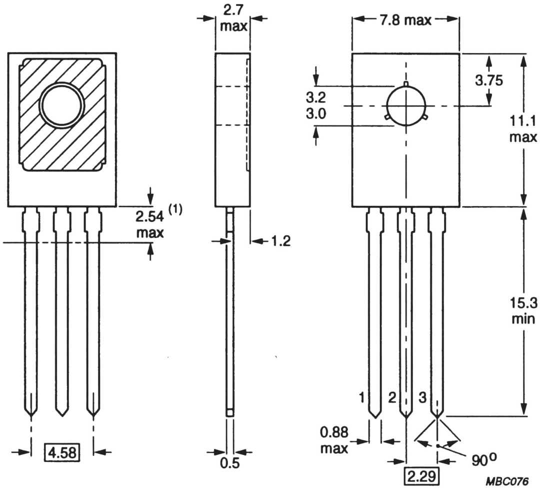
SOT93


15.2 max
14
13.6
4.25
4.15
R 2 max
4.4
4.6
max
2
21
max
12.7
max
2.2 max
dimensions within
this zone are
uncontrolled
0.5
min
13.6
min
1
2
3
2
5.5
0.5 M
1.15
0.95
0.4
1.6
dimensions are for
untinned terminals
11
MSA091

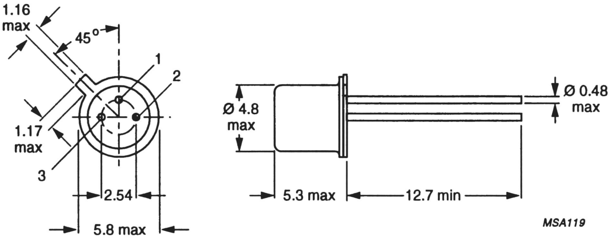
SOT93A


15.2 max
14
13.6
4.25
4.15
R 2 max
4.4
4.6
max
2
21
max
12.7
max
2.2 max
dimensions within
this zone are
uncontrolled
0.5
min
13.6
min
1
2
3
5.5
0.5 M
1.15
0.95
0.4
1.6
dimensions are for
untinned terminals
11
MSA092

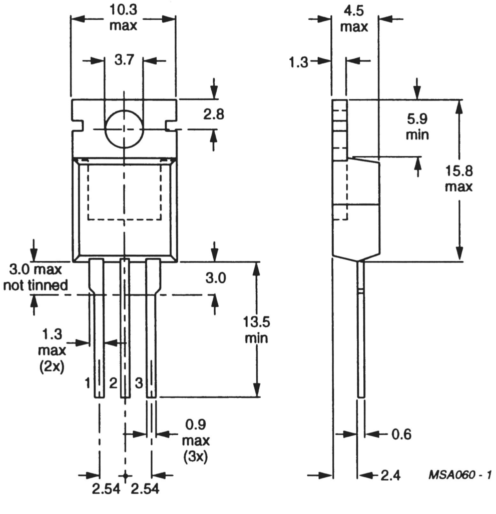
TO-126


2.7
max
7.8 max
3.75
3.2
3.0
11.1
max
2.54 (1)
max
1.2
15.3
min
1
2
3
0.88
max
90°
4.58
0.5
2.29
MBC076

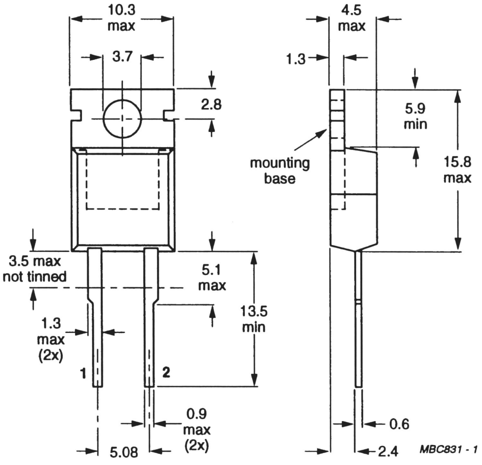
TO-18


1.16
max
45°
1
2
1.17
max
3
2.54
5.8 max
Ø 4.8
max
Ø 0.48
max
5.3 max
12.7 min
MSA119

TO220AB

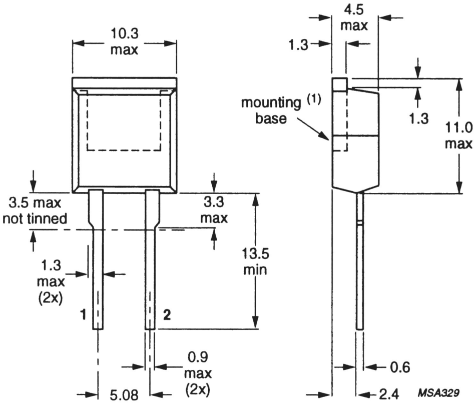

10.3
max
3.7
2.8
4.5
max
1.3
5.9
min
15.8
max
3.0 max
not tinned
3.0
13.5
min
1.3
max
(2x)
1
2
3
0.9
max
(3x)
2.54
2.54
0.6
2.4
MSA060 - 1

TO220AB(3)

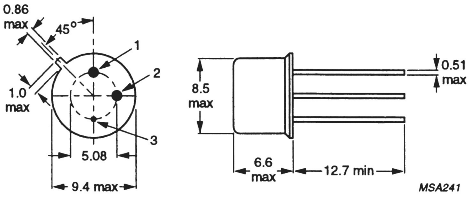

10.3
max
3.7
2.8
4.5
max
1.3
5.9
min
mounting
base
15.8
max
3.5 max
not tinned
5.1
max
13.5
min
1.3
max
(2x)
1
2
0.9
max
(2x)
5.08
0.6
2.4
MBC831 - 1

Package outlines

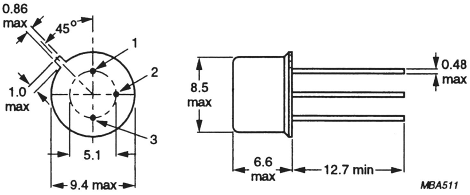
TO220AC


10.3
max
4.5
max
1.3
mounting (1)
base
1.3
11.0
max
3.5 max
not tinned
3.3
max
13.5
min
1.3
max
(2x)
1
2
0.9
max
(2x)
5.08
0.6
2.4
MSA329

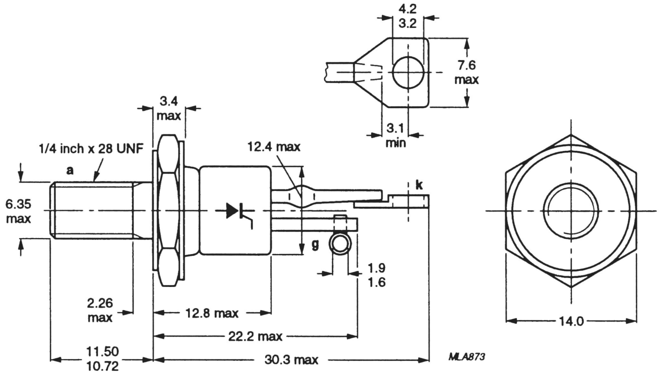
TO-39, TO39/1, TO39/3


0.86
max
45°
1
2
3
1.0
max
5.08
9.4 max
8.5
max
0.51
max
6.6
max
12.7 min
MSA241

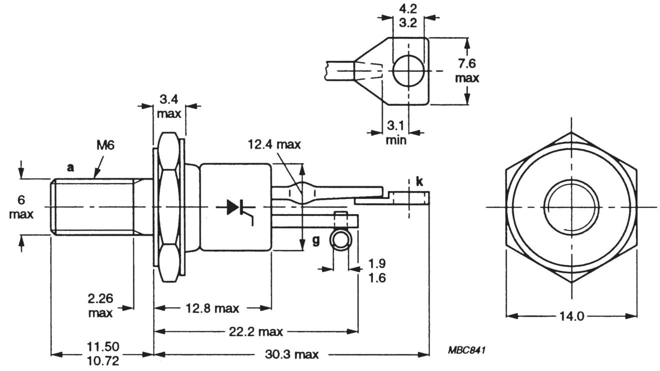
TO-39(b)


0.86
max
45°
1
2
3
1.0
max
5.1
9.4 max
8.5
max
0.48
max
6.6
max
12.7 min
MBA511

TO-48(1)


4.2
3.2
7.6
max
3.1
min
3.4
max
1/4 inch x 28 UNF
a
12.4 max
k
6.35
max
g
1.9
1.6
2.26
max
12.8 max
22.2 max
11.50
10.72
30.3 max
14.0
MLA873

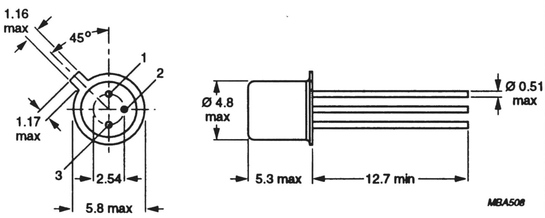
TO-48(2)


4.2
3.2
7.6
max
3.1
min
3.4
max
M6
a
12.4 max
k
6
max
g
1.9
1.6
2.26
max
12.8 max
22.2 max
11.50
10.72
30.3 max
14.0
MBC841

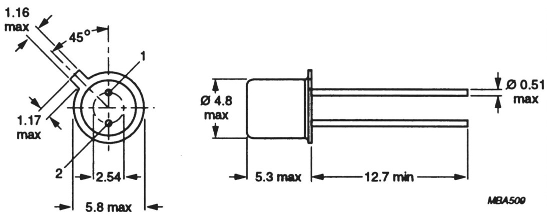
DISCRETE SEMICONDUCTORS

Package outlines

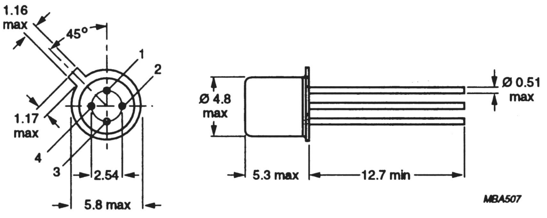
TO-72(1)


1.16
max
45°
1
2
1.17
max
3
2.54
5.8 max
Ø 4.8
max
5.3 max
12.7 min
Ø 0.51
max
MBA508

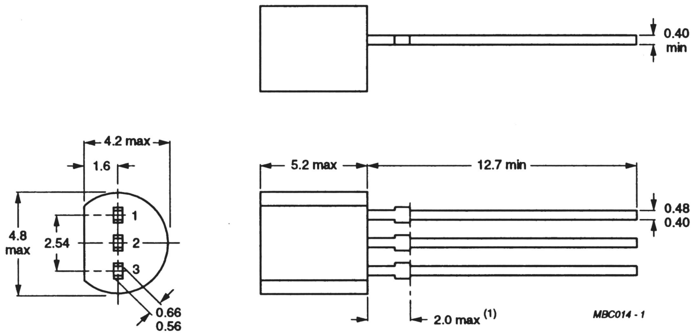
TO-72(2)


1.16
max
45°
1
1.17
max
2
2.54
5.8 max
Ø 4.8
max
5.3 max
12.7 min
Ø 0.51
max
MBA509

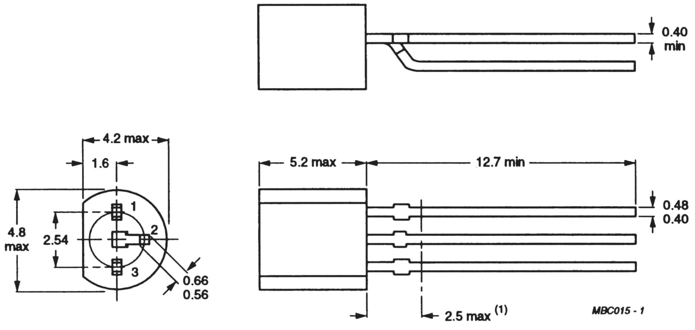
TO-72


1.16
max
45°
1
2
1.17
max
4
3
2.54
5.8 max
Ø 4.8
max
5.3 max
12.7 min
Ø 0.51
max
MBA507

TO92


0.40
min
4.2 max
1.6
4.8
max
2.54
1
2
3
0.66
0.56
5.2 max
12.7 min
0.48
0.40
2.0 max (1)
MBC014 - 1

TO-92(2)


0.40
min
4.2 max
1.6
4.8
max
2.54
1
2
3
0.66
0.56
5.2 max
12.7 min
0.48
0.40
2.5 max (1)
MBC015 - 1

Package outlines

WIDEBAND AMPLIFIER MODULES

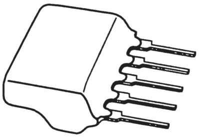


Fig. a

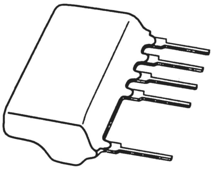


Fig. b

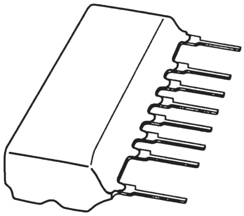


Fig. c

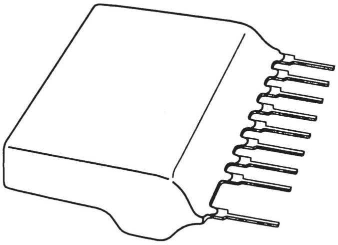


Fig. d

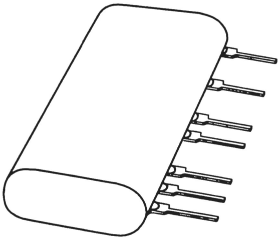


Fig. e

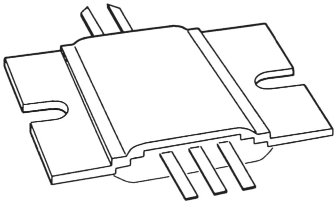


Fig. f

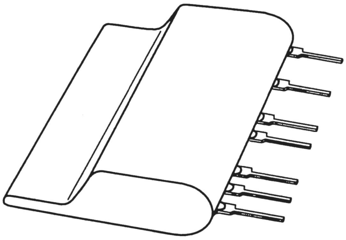


Fig. g

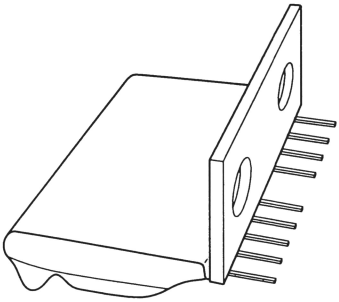


Fig. h

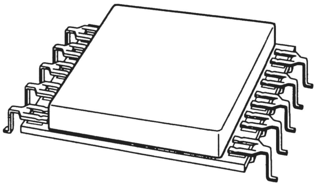


Fig. i

Circulators and Isolators

5

RF & MICROWAVE SEMICONDUCTORS & MODULES

Circulators and Isolators

CONTENTS

page

Introduction 5-4

Circulators and Isolators 5-5
  Frequency range: 54 MHz to 270 MHz 5-5
  Frequency range: 225 MHz to 800 MHz 5-6
  Frequency range: 600 MHz to 2100 MHz 5-7
  Frequency range: 1700 MHz to 4000 MHz 5-8
  Frequency range: 2450 MHz to 18000 MHz 5-9

Isoductors 5-9
  Frequency range: 68 MHz to 470 MHz 5-9

Package outlines 5-10

Circulators and Isolators

Circulators and Isolators

With more than 20 years' design and manufacturing experience, we offer circulators and isolators with outstanding performance.

They cover the following specifications:

- **Frequency range:** 50 MHz to 18 GHz
- **Isolation:** up to 55 dB
- **Insertion loss:** down to 0.2 dB
- **CW power rating:** up to 6.5 kW

Over the years, we've made circulators and isolators to meet a wide range of VHF, UHF and microwave requirements, and most of these are now available as standard types. If your needs are not met by a standard type, our experts will design and build custom-made devices to your specifications. Furthermore, for parallel operation or for monopulse applications, we can provide phase-matched sets.

Our circulators and isolators are designed for the following applications:

- TV and radio transmitters
- Communication systems:
  - radio links
  - air traffic control
  - mobile telephone
  - paging systems
  - private networks
- Navigation aids
- Radar
- Diathermy and magnetic resonance tomography
- Industrial microwave heating systems and plasma heating
- Wideband measurements

To meet the needs of hybrid circuit designers, we also make isoductors. These have only the non-reciprocal element of a circulator, and require matching networks for operation.

Choosing from our standard type range

As an indication of our capabilities, this catalogue shows a selection from our extensive standard type range. More detailed information on all standard types is given in Data Handbook PC06.

The table below explains our 12-digit type number system used to uniquely identify the devices.

digits 1-4	digits 5-7	digits 8 and 9		
2722	161 waveguide	0	1	field displacement or slimline isolator
		0	2	circulator
		0	3	X-configuration 4-port circulator
		0	4	isolator
	162 coaxial	0	1,3,5,7	circulator
		0	2,6,8	isolator
		0	4	4-port circulator
		0	9	isoductor
	163 industrial	0	1	circulator
		0	2	isolator

Circulators and Isolators

type number 2722	frequency range (MHz)	CW power (load VSWR = 2) max (W)	isolation min (dB)	insertion loss max (dB)	VSWR max	dimensions (mm) Fig	 W	 L	 T	connectors
162 07271	54-60	130	17	0.7	1.4	2	65	80	33	N
162 07281	66-72	130	17	0.7	1.4	2	65	80	33	N
162 02913	72-73	20	20	0.7	1.25	1	49	52	27	N
162 05151	74.5-75.5	25	20	0.8	1.25	1	49	52	27	N
162 02722	83-84	20	20	0.7	1.25	1	49	52	27	N
162 05991	88-108	50	18	0.8	1.3	2	53	67	28	N
162 07021	88-108	300	16	0.8	1.4	2	65	80	33	N
162 03342	96-146	50	18	1.3	1.3	2	53	67	28	N
162 03332	96-146	50	18	1.3	1.3	2	53	67	28	SMA
162 02943	100-101	20	20	0.7	1.25	1	49	52	27	N
162 05881	100-163	75	15	1	1.5	2	53	67	28	N
162 05891	100-163	300	15	1	1.5	2	65	80	33	N
162 07141	132-178	40	17	0.5	1.35	2	53	67	28	N
162 02903	138-141	25	20	0.4	1.25	1	49	52	27	N
162 05002	138-141	110	20	0.4	1.25	1	49	52	27	N
162 02953	144.5-147.5	20	20	0.6	1.25	1	49	55	27	N
162 04142	146-174	250	40	0.8	1.25	5	138	74	30	SMA
162 04143	146-174	250	40	0.8	1.25	5	138	74	30	SMA
162 05755	146-174	110	20	0.4	1.25	1	49	52	27	N
162 02963	153.5-156.5	20	20	0.6	1.25	1	49	55	27	N
162 06003	156-157	20	20	0.6	1.25	1	49	52	27	N
162 01871	160-178	500	20	0.35	1.25	3	112	–	72	N
162 03641	160-178	500	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 01901	160-178	1000	20	0.35	1.25	3	112	–	72	HF $^{7}/_{16}$
162 03681	160-178	1000	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 02993	161-162	15	20	0.6	1.25	1	49	52	27	N
162 07005	170-230	100	20	0.5	1.25	1	49	52	27	N
162 07811	170-310	100	14	0.8	1.5	2	53	67	28	stripline
162 01861	173-204	500	20	0.35	1.25	3	112	–	72	N
162 03631	173-204	500	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 03671	173-204	1000	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 01891	173-204	1000	20	0.35	1.25	3	112	–	72	HF $^{7}/_{16}$
162 05811	173-204	1000	20	0.35	1.25	3	112	–	72	N
162 05971	173-204	1500	20	0.35	1.25	4	175	175	81	EIA 1$^{5}/_{8}$"
162 06893	176.5-183.5	20	20	0.6	1.25	1	49	55	27	N
162 05031	195-205	1000	20	0.4	1.25	3	112	–	72	N
162 01851	200-230	500	20	0.35	1.25	3	112	–	72	N
162 03621	200-230	500	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 05821	200-230	1000	20	0.25	1.25	3	112	–	72	N
162 01881	200-230	1000	20	0.35	1.25	3	112	–	72	HF $^{7}/_{16}$
162 05981	200-230	1000	20	0.35	1.25	4	175	175	81	EIA 1$^{5}/_{8}$"
162 03661	200-230	1000	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 06903	200.5-207.5	20	20	0.6	1.25	1	49	52	27	N
162 01931	225-270	150	18	0.35	1.35	1	63	70	30	N
162 01932	225-270	150	18	0.5	1.35	1	63	70	30	N
162 03171	225-270	500	20	0.35	1.25	3	112	–	72	N
162 03651	225-270	500	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 03691	225-270	1000	20	0.35	1.25	3	112	–	72	EIA $^{7}/_{8}$"
162 03181	225-270	1000	20	0.35	1.25	3	112	–	72	HF $^{7}/_{16}$

5

Circulators and Isolators

Circulators and Isolators *continued*

type number 2722	frequency range (MHz)	CW power (load VSWR = 2) max (W)	isolation min (dB)	insertion loss max (dB)	VSWR max	dimensions (mm) Fig	W	L	T	connectors
162 03722	225-400	60	15	1.4	1.6	2	53	67	28	SMA
162 03732	225-400	60	15	1.4	1.6	2	53	67	28	N
162 05782	225-400	200	16	0.7	1.4	2	53	67	28	N
162 08771	225-400	230	14	0.7	1.5	–	53	82	28	SMA
162 03421	270-330	60	18	0.35	1.35	1	63	70	30	SMA
162 01941	270-330	150	18	0.35	1.35	1	63	70	30	N
162 05091	330-400	60	18	0.35	1.35	1	63	70	30	SMA
162 01951	330-400	150	18	0.35	1.35	1	63	70	30	N
162 03411	400-470	100	20	0.5	1.25	1	49	52	27	N
162 05101	400-470	100	20	0.5	1.25	1	49	52	27	SMA
162 01572	400-470	300	20	0.35	1.25	1	65	72	38	N
162 02931	406-414	60	45	1	1.25	5	97	52	27	N
162 06161	406-470	100	50	0.8	1.25	5	97	52	27	N
162 08871	424-431	100	45	0.7	1.25	5	97	52	27	SMA
162 03991	433-435	2000	20	0.4	1.25	3	112	–	72	EIA $^7/_8$"
162 02981	450-458	60	45	0.8	1.25	5	97	52	27	N
162 08761	450-470	100	45	0.7	1.25	5	97	52	27	SMA
162 06931	455-459	100	50	0.6	1.25	5	97	52	27	N
162 02857	460-468	60	50	0.6	1.25	5	97	52	27	N
162 01555	462-468	100	25	0.5	1.2	1	49	52	27	N
162 02691	470-600	10	20	0.5	1.25	1	49	52	27	N
162 02671	470-600	10	20	0.5	1.25	1	49	52	27	4, $^1/_9$, 5
162 03871	470-600	50	20	0.5	1.25	1	49	52	27	SMA
162 03961	470-600	100	20	0.5	1.25	1	49	52	27	N
162 01551	470-600	100	20	0.5	1.25	1	49	52	27	N
162 01582	470-600	300	20	0.35	1.25	1	65	72	38	N
162 01632	470-600	400	20	0.35	1.25	1	65	72	38	HF $^7/_{16}$
162 01121	460-600	500	22	0.35	1.2	3	112	–	72	N
162 03221	470-600	500	20	0.35	1.25	3	112	–	72	EIA $^7/_8$"
162 03141	470-600	500	20	0.35	1.25	3	112	–	72	EIA $^7/_8$"
162 05371	470-600	700.1)	20	0.4	1.25	3	112	–	72	HF $^7/_{16}$
162 01771	470-600	2000	20	0.35	1.25	3	112	–	72	EIA $^7/_8$"
162 01261	470-600	2000	20	0.35	1.25	3	112	–	72	HF $^7/_{16}$
162 03001	470-600	2000.1)	20	0.4	1.25	4	175	175	81	EIA 1$^5/_8$"
162 07411	470-610	150	18	0.4	1.35	1	42	48	27	solder pins
162 07651	470-610	200	18	0.4	1.35	1	49	52	27	N
162 02921	510-514	70	45	0.8	1.25	5	97	52	27	N
162 01563	550-650	100	20	0.5	1.25	1	49	52	27	N
162 01592	590-720	300	20	0.35	1.25	1	65	72	38	N
162 01642	590-720	400	20	0.35	1.25	1	65	72	38	HF $^7/_{16}$
162 03241	590-720	500	20	0.35	1.25	3	112	–	72	EIA $^7/_8$"
162 03201	590-720	500	20	0.35	1.25	3	112	–	72	HF $^7/_{16}$
162 01131	590-720	500	22	0.35	1.2	3	112	–	72	N
162 05381	590-720	700.1)	20	0.4	1.25	3	112	–	72	HF $^7/_{16}$
162 01781	590-720	2000	20	0.35	1.25	3	112	–	72	EIA $^7/_8$"
162 01281	590-720	2000	22	0.35	1.2	3	112	–	72	HF $^7/_{16}$
162 03011	590-720	2000.1)	20	0.4	1.25	4	175	175	81	EIA 1$^5/_8$"
162 02701	600-800	10	20	0.5	1.25	1	49	52	27	N
162 02681	600-800	10	20	0.5	1.25	1	49	52	27	4, $^1/_9$, 5

1) 8000 W peak

Circulators and Isolators *continued*

type number 2722	frequency range (MHz)	CW power (load VSWR = 2) max (W)	isolation min (dB)	insertion loss max (dB)	VSWR max	dimensions (mm) Fig	W	L	T	connectors
162 02751	600-800	10	20	0.5	1.25	1	49	52	27	SMA
162 03821	600-800	50	20	0.5	1.25	1	49	52	27	SMA
162 01561	600-800	100	20	0.5	1.25	1	49	52	27	N
162 03971	600-800	100	20	0.5	1.25	1	49	52	27	N
162 03151	600-800	500	20	0.35	1.25	3	112	–	72	HF 7/16
162 03231	600-800	500	20	0.35	1.25	3	112	–	72	EIA 7/8"
162 03191	600-800	500	20	0.35	1.2	3	112	–	72	N
162 01791	600-800	2000	20	0.35	1.25	3	112	–	72	EIA 7/8"
162 01331	600-800	2000	20	0.35	1.25	3	112	–	72	HF 7/16
162 05321	600-960	10	13	0.9	1.65	1	53	54	30	SMA
162 06111	600-960	10	13	0.9	1.65	1	53	54	30	SMA
162 07421	610-860	150	18	0.4	1.35	1	42	48	27	solder pins
162 07661	610-860	200	18	0.4	1.35	1	49	52	27	N
162 01612	710-860	300	20	0.35	1.25	1	65	72	38	N
162 01662	710-860	400	20	0.35	1.25	1	65	72	38	HF 7/16
162 01141	710-860	500	22	0.35	1.2	3	112	–	72	N
162 03211	710-860	500	20	0.35	1.25	3	112	–	72	HF 7/16
162 03251	710-860	500	20	0.35	1.25	3	112	–	72	EIA 7/8"
162 05391	710-860	700. 1)	20	0.4	1.25	3	112	–	72	HF 7/16
162 01801	710-860	2000	20	0.35	1.25	3	112	–	72	EIA 7/8"
162 01271	710-860	2000	22	0.35	1.2	3	112	–	72	HF 7/16
162 01981	710-860	2000. 1)	20	0.4	1.25	4	175	175	81	EIA 1 5/8"
162 02741	790-1000	10	20	0.5	1.25	1	49	52	27	SMA
162 02401	790-1000	10	20	0.5	1.25	1	49	52	27	N
162 03811	790-1000	50	20	0.5	1.25	1	49	52	27	SMA
162 03261	790-1000	100	20	0.5	1.25	1	49	52	27	N
162 03981	790-1000	100	20	0.5	1.25	1	49	52	27	N
162 06671	806-960	100	45	0.8	1.25	5	97	52	27	N
162 08901	860-960	60	45	0.5	1.25	–	76	42	28	N
162 08841	870-960	20	20	0.5	1.3	1	37	36	20	SMA
162 07361	880-950	10	22	0.4	1.2	1	37	36	20	SMA
162 07781	925-960	50	20	0.5	1.25	1	27	27	19	solder pins
162 08781	925-960	40	23	0.35	1.2	–	52	40	32	SMA
162 08682	930-965	60	45	0.5	1.2	–	70	50	26	SMA
162 07597	935-960	70	20	0.3	1.2	–	52	49	30	N
162 08721	935-960	40	50	0.5	1.2	–	95	44	27	MCX
162 08801	935-960	60	50	0.6	1.25	5	76	38	26	N
162 03591	960-1225	100	20	0.5	1.25	1	49	52	27	N
162 08341	1200-1415	20	20	0.4	1.25	1	49	52	27	N
162 07511	1215-1400	250	19	0.3	1.25	1	65	72	38	HF 7/16
162 08641	1230-1365	60	20	0.4	1.35	1	37	43	20	SMA
162 05331	1350-1700	10	20	0.4	1.2	1	35	36	20	SMA
162 06701	1350-2100	10	17	0.5	1.35	1	35	36	20	SMA
162 05571	1350-2100	10	17	0.5	1.35	1	35	36	20	SMA
162 02492	1427-1535	10	20	0.4	1.15	1	49	52	27	N
162 03802	1427-1535	10	20	0.4	1.15	1	49	52	27	N
162 02531	1590-1800	1	20	0.4	1.22	1	35	36	20	solder pins
162 03881	1680-1920	20	25	0.35	1.12	1	49	52	28	SMA
162 03911	1680-1920	50	23	0.4	1.15	1	49	52	28	N

1) 8000 W peak

Circulators and Isolators *continued*

type number 2722	frequency range (MHz)	CW power (load VSWR = 2) max (W)	isolation min (dB)	insertion loss max (dB)	VSWR max	dimensions (mm)				connectors
						Fig	W	L	T	
162 05311	1700-2100	10	20	0.4	1.2	1	35	36	20	SMA
162 02571	1700-2100	15	26	0.25	1.11	1	35	36	20	SMA
162 02581	1700-2100	15	26	0.25	1.11	1	35	36	20	SMA
162 05241	1700-2100	30	26	0.3	1.11	1	35	36	20	SMA
162 05231	1700-2100	30	20	0.3	1.25	1	35	36	20	SMA
162 05251	1700-2100	30	26	0.3	1.11	1	35	36	20	SMA
162 04051	1700-2100	30	26	0.25	1.11	6	86	35	20	SMA
162 04091	1700-2100	30	26	0.35	1.11	6	86	35	20	SMA
162 02191	1700-2300	20	20	0.3	1.25	1	49	52	28	N
162 02511	1700-2300	20	20	0.3	1.25	1	49	52	28	SMA
162 03951	1700-2300	20	20	0.3	1.25	1	49	52	28	SMA
162 03941	1700-2300	50	20	0.3	1.25	1	49	52	28	N
162 07601	1700-2700	25	20	0.45	1.25	1	35	36	20	SMA
162 02541	1760-1940	1	20	0.4	1.22	1	35	36	20	solder pins
162 07801	1805-1880	45	22	0.35	1.15	–	52	49	30	N
162 08911	1805-1880	40	23	0.35	1.2	6	60	33	18	SMA, SMB
162 03891	1880-2120	20	25	0.35	1.12	1	49	52	28	SMA
162 03921	1880-2120	50	23	0.4	1.15	1	49	52	28	N
162 02551	1890-2110	1	20	0.4	1.22	1	35	36	20	solder pins
162 05341	1900-2300	10	20	0.4	1.2	1	35	36	20	SMA
162 02591	1900-2300	15	26	0.25	1.11	1	35	36	20	SMA
162 02601	1900-2300	15	26	0.25	1.11	1	35	36	20	SMA
162 05471	1900-2300	15	23	0.3	1.1	1	35	43	20	N/SMA
162 05261	1900-2300	30	26	0.3	1.11	1	35	36	20	SMA
162 05271	1900-2300	30	26	0.3	1.11	1	35	36	20	SMA
162 04101	1900-2300	30	26	0.25	1.11	6	56	35	20	SMA
162 04061	1900-2300	30	26	0.25	1.11	6	86	35	20	SMA
162 07861	1930-1990	45	22	0.35	1.15	–	52	40	30	N
162 08921	1930-1990	60	50	0.5	1.25	5	76	42.5	28	SMB, TNC
162 05411	2000-2700	10	20	0.4	1.2	1	35	36	20	SMA
162 01501	2000-4000	50	20	0.5	1.25	1	52	67	28	SMA
162 02091	2000-4000	50	20	0.5	1.25	1	52	67	28	N
162 02101	2000-4000	50	20	0.5	1.25	1	52	67	28	SMA
162 01491	2000-4000	50	20	0.5	1.25	1	52	67	28	N
162 03901	2080-2320	20	25	0.35	1.12	1	49	52	28	SMA
162 03931	2080-2320	50	23	0.4	1.15	1	49	52	28	N
162 05351	2100-2500	10	20	0.4	1.2	1	35	36	20	SMA
162 05361	2300-2700	10	20	0.4	1.2	1	35	36	20	SMA
163 02061	2425-2475	3000	20	0.3	1.25[2)]	7	292	191	116	IEC-PDR
163 02071	2425-2475	3000	20	0.3	1.25[2)]	8	182	300	116	IEC-PDR
163 02101	2425-2475	2000	20	0.3	1.20[2)]	–	182	300	96	IEC PDR
163 01021	2425-2475	6500	20	0.3	1.25[2)]	9	182	191	116	IEC-PDR
163 02004	2425-2475	6500	20	0.3	1.25[2)]	8	182	300	116	IEC-PDR
163 02005	2425-2475	6500	20	0.3	1.25[2)]	7	292	191	116	IEC-PDR

[2)] with output short circuited: load VSWR = 1.5 maximum

Circulators and Isolators *continued*

type number 2722	frequency range (MHz)	CW power (load VSWR = 2) max (W)	isolation min (dB)	insertion loss max (dB)	VSWR max	dimensions (mm) Fig	 W	 L	 T	connectors
162 05401	2450-2850	10	20	0.4	1.2	1	35	36	20	SMA
162 02071	3000-6000	20	20	0.5	1.25	1	39	47	23	SMA
162 01511	3000-6000	20	20	0.5	1.25	1	39	47	23	SMA
162 04031	3800-4200	10	25	0.25	1.12	6	53	27	20	SMA
162 03431	3800-4200	10	25	0.25	1.12	1	27	27	20	SMA
162 01811	4000-8000	10	20	0.5	1.25	1	30	38	20	SMA
162 02111	4000-8000	10	20	0.5	1.25	1	30	38	20	SMA
162 02471	4200-4400	10	23	0.3	1.2	1	28	30	16	SMA
162 04041	4400-5000	10	25	0.25	1.12	6	53	27	20	SMA
162 03441	4400-5000	10	25	0.25	1.12	1	27	27	20	SMA
161 04003	5925-6425	200	28	0.2	1.08	10	83	90	39	IEC-UER
161 02212	5925-6425	200	28	0.2	1.08	10	83	81	39	IEC-UER
162 08461	6400-7100	1	23	0.4	1.15	1	28	28	16	SMA
161 02312	6425-7125	200	28	0.2	1.08	10	83	81	39	IEC-UER
161 04052	6425-7125	200	28	0.2	1.08	10	83	90	39	IEC-UER
162 02122	7000-12400	10	20	0.6	1.25	1	27	31	21	SMA
162 01822	7000-12400	10	20	0.6	1.25	1	27	31	21	SMA
161 04062	7125-7750	200	28	0.2	1.08	10	83	90	39	IEC-UER
161 02322	7125-7750	200	28	0.2	1.08	10	83	81	39	IEC-UER
162 02231	7900-10400	5	20	0.4	1.25	1	21	22	14	IEC-UBR
161 02071	8200-11200	50	22	0.5	1.18	11	63	55	57	IEC-UBR
161 01222	8500-9600	1	15	0.6	1.15	12	35	43	54	IEC-UBR
161 01361	8500-9600	5	30	0.5	1.05	12	86	43	43	IEC-UBR
161 01211	8500-9600	10	30	0.5	1.05	12	76	47	50	IEC-UBR
161 01261	8500-9600	10	55	1.2	1.2	12	100	47	50	IEC-UBR
162 02501	8900-9600	5	20	0.4	1.25	1	21	22	14	SMA
162 02221	12000-18000	5	20	0.6	1.3	1	14	18	16	SMA
162 03301	12000-18000	5	18	0.6	1.3	1	14	18	16	SMA

Isoductors

type number 2722	frequency range (MHz)	CW power (load VSWR = 2) max (W)	isolation min (dB)	insertion loss max (dB)	VSWR max	dimensions (mm) Fig	 W	 L	 T	connectors
162 09002	68-150	40	20	0.7[3]	1.22	13	19	30	19	solder pins
162 09012	140-260	40	20	0.6	1.22	13	19	30	19	solder pins
162 09022	230-470	40	20	0.5	1.22	13	19	30	19	solder pins

[3] insertion loss = 0.7 dB max. @ >100 MHz; 0.9 dB max. @ ≤100 MHz

Package outlines MODULES

CIRCULATORS AND ISOLATORS

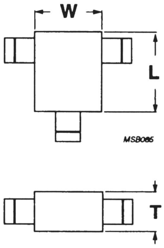


Fig. 1

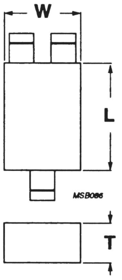


Fig. 2

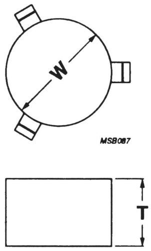


Fig. 3

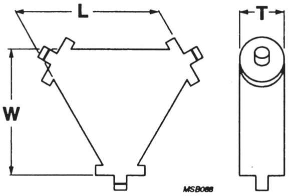


Fig. 4

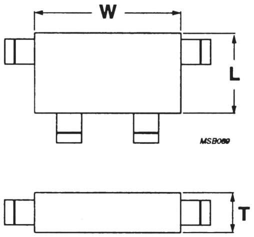


Fig. 5

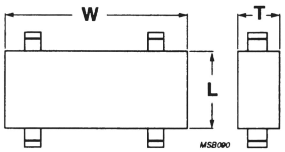


Fig. 6

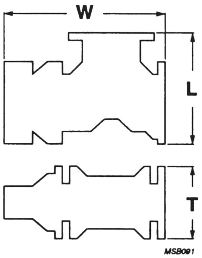


Fig. 7

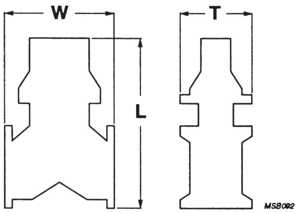


Fig. 8

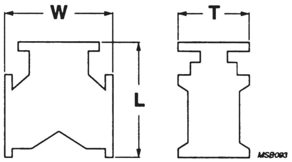


Fig. 9

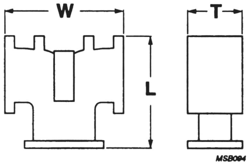


Fig. 10

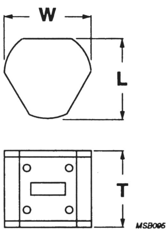


Fig. 11

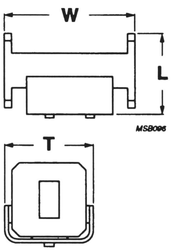


Fig. 12

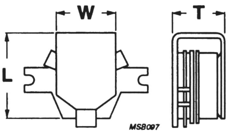


Fig. 13

High-power Klystrons

6

CONTENTS

page

UHF power klystrons 6-4

High-power klystrons 6-5

Pulsed-power klystrons 6-5

High-power klystrons

UHF POWER KLYSTRONS

type number	collector cooling	power gain (dB)	output power, peak sync. (kW)	efficiency FOM (%)	frequency range (MHz)
YK1151	FA	40	25	37	470 to 860
YK1220	W/V	32	16	45	470 to 860
YK1221	W/V	19-32	7.5 CW	35	470 to 860
YK1223	W/V	32	16	45/65	470 to 860
YK1230	W/V	32	27	45/65	470 to 860
YK1233	W/V	32	27	45/65	470 to 860
YK1235	W/V	32	33	45/65	470 to 860
YK1263	W/V	36	44	45/65	470 to 810
YK1265	W/V	36	64	45/65	470 to 860
YK1266	W/V	40	74	53/72	470 to 860
YK1267	W/V	36	74	45/65	470 to 860
YK1270	FA	32	16	45	470 to 860
YK1273	FA	32	16	45/65	470 to 860
YK1280	FA	32	33	65/130	470 to 860
YK1283	FA	36	44	65/130	470 to 810
YK1285	W	36	64	65/130	470 to 860
YK1290	W/V	36	45	45/65	470 to 610
YK1291	W/V	38	45	45/65	590 to 720
YK1292	W/V	38	45	45/65	710 to 860
YK1295	W/V	38	58	45/65	470 to 610
YK1296	W/V	40	58	45/65	590 to 720
YK1297	W/V	40	58	45/65	710 to 860
YK1310	W	40	250	55	430 to 550
YK1314	W	40	250	55	350 to 430
YK2000	W	21	44	55/120	470 to 810
YK2020	W	21	33	55/120	470 to 810
YK2060	W	21	64	55/120	470 to 810

Cooling: FA = forced air; W = water; V = vapour; VC = vapour condensation.

HIGH-POWER KLYSTRONS

type number	collector cooling	power gain (dB)	output power, peak sync. (kW)	efficiency FOM (%)	frequency range (MHz)
YK1240	W	330 (pulse)	43	54	1300
YK1250	W	400	40	58	1000
YK1300	W	600	41	62	500
YK1304	W	800	41	62	500
YK1302	V	800	40	62	508
YK1303	V	1000	40	62	508
YK1305	W	350	41	55	500
YK1320	W	2500 (pulse)	38	55	224
YK1350	W	1000	40	66	352
YK1353	W	1300	41	66	352
YK1355	W	500	40	60	352

PULSED-POWER KLYSTRONS

type number	collector cooling	power gain (dB)	output power, peak sync. (kW)	efficiency FOM (%)	frequency range (MHz)
YK1110	W	6000	30	30	2998
YK1420	W	10000	42	45	L-band
YK1510	W	20000	44	-	S-band
YK1511	W	20000	44	-	S-band
YK1512	W	20000	44	-	S-band
YK1600	W	35000	53	46	2998
YK1635	W	35000	53	46	2998
YK1645	W	45000	53	46	2998

Cooling: FA = forced air; W = water; V = vapour; VC = vapour condensation

Semiconductor Sensors

Semiconductor sensors

CONTENTS

page

Magnetic field sensors 7-4

Sensor hybrid modules and integrated sensors 7-5
  Integrated sensors for rotational speed measurement and reference-mark detection 7-5
  Sensors for rotational speed measurement and reference-mark detection 7-5
  Sensor modules for angle measurement 7-5

Temperature sensors 7-6

Package outlines 7-8

7

MAGNETIC FIELD SENSORS

type number	field range [1] (kA/m)	supply voltage (V)	T_{amb} (°C)	sensitivity $(\frac{mV/V}{kA/m})$	bridge resistance (kΩ)
KM110B/1	−2.0 to +2.0	5	−40 to +150	1.7	2.1
KM110B/4	−2.0 to +2.0	5	−40 to +150	1.9	2.1
KMZ10A	−0.5 to +0.5	5	−40 to +150	16	1.2
KMZ10A1	−0.05 to +0.05 [2]	5	−40 to +150	22 [2]	1.3
KMZ10B	−2.0 to +2.0	5	−40 to +150	4	2.1
KMZ10C	−7.5 to +7.5	5	−40 to +150	1.5	1.4
KMZ11B1	−2.0 to +2.0	5	−40 to +150	4	2.1

---

1) In air, 1 kA/m corresponds to approximately 12.5 G or 1.25 mT.
2) With switched Hx.

SENSOR HYBRID MODULES AND INTEGRATED SENSORS

Integrated sensors for rotational speed measurement and reference-mark detection

type number	sensing distance [3] (mm)	sensing frequency (Hz)	output current (mA)	determination of rotational direction
KMI10/1	2.5	0 to 25000	7/14	no
KMI10/4 [6]	2.3	0 to 25000	7/14	no

Sensors for rotational speed measurement and reference-mark detection

type number	sensing distance [4] (mm)	sensing frequency (Hz)	mounting direction relative to gear wheel	determination of rotational direction
KM110BH/12	3.5	1 to 3000	tangential	no
KM110BH/14	3.5	1 to 3000	radial	no
KM110BH/31	3.0	2 to 50000	radial	yes
KM110BH/32	4.0	10 to 20000	radial	yes

Sensor modules for angle measurement

type number	angle range (deg)	output [5]	supply voltage (V)	T_{amb} °C
KM110BH/2130	30	0.5 to 4.5 V; linear	5	−40 to +125
KM110BH/2190	90	0.5 to 4.5 V; sinusoidal	5	−40 to +125
KM110BH/2270	−35 to +35	4 to 20 mA	8.5	−40 to +100
KM110BH/2390	−45 to +45	0.5 to 4.5 V, sinusoidal	5	−40 to +125
KM110BH/2430	−15 to +15	0.5 to 4.5 V, linear	5	−40 to +125
KM110BH/2470	−35 to +35	0.5 to 4.5 V, sinusoidal	5	−40 to +125

[3] Gear wheel: pitch diameter = 100 mm; module 2; material: steel (1.0715)

[4] Gear wheel: pitch diameter = 44 mm; width = 16 mm; module 2; material: steel (1.0715)

[5] Sensor signal is generated by a magnetic field H = 100 kA/m. For example: rare earth magnet 11.2 × 5.5 × 8.0 mm, distance 2.5 mm from the KMZ10B chip in the sensor module.

[6] Small magnet

TEMPERATURE SENSORS

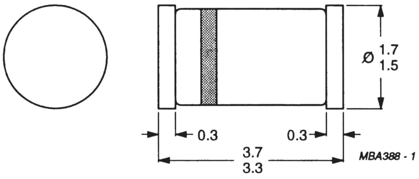
	temperature range	resistance		sensor accuracy		sensor current
type number	(°C)	R (Ω)	at T_{amb} (°C)	(°C)	at T_{amb} (°C)	(mA)
KTY81-110	−55 to +150	990 to 1010	25	±1.3	25	1
KTY81-120	−55 to +150	980 to 1020	25	±2.5	25	1
KTY81-121	−55 to +150	980 to 1000	25	±1.3	25	1
KTY81-122	−55 to +150	1000 to 1020	25	±1.3	25	1
KTY81-150	−55 to +150	950 to 1050	25	±6.3	25	1
KTY81-151	−55 to +150	950 to 1000	25	±3.2	25	1
KTY81-152	−55 to +150	1000 to 1050	25	±3.2	25	1
KTY81-210	−55 to +150	1980 to 2020	25	±1.3	25	1
KTY81-220	−55 to +150	1960 to 2040	25	±2.5	25	1
KTY81-221	−55 to +150	1960 to 2000	25	±1.3	25	1
KTY81-222	−55 to +150	2000 to 2040	25	±1.3	25	1
KTY81-250	−55 to +150	1900 to 2100	25	±6.3	25	1
KTY81-251	−55 to +150	1900 to 2000	25	±3.2	25	1
KTY81-252	−55 to +150	2000 to 2100	25	±3.2	25	1
KTY82-110	−55 to +150	990 to 1010	25	±1.3	25	1
KTY82-120	−55 to +150	980 to 1020	25	±2.5	25	1
KTY82-121	−55 to +150	980 to 1000	25	±1.3	25	1
KTY82-122	−55 to +150	1000 to 1020	25	±1.3	25	1
KTY82-150	−55 to +150	950 to 1050	25	±6.3	25	1
KTY82-151	−55 to +150	950 to 1000	25	±3.2	25	1
KTY82-152	−55 to +150	1000 to 1050	25	±3.2	25	1
KTY82-210	−55 to +150	1980 to 2020	25	±1.3	25	1
KTY82-220	−55 to +150	1960 to 2040	25	±2.5	25	1
KTY82-221	−55 to +150	1960 to 2000	25	±1.3	25	1
KTY82-222	−55 to +150	2000 to 2040	25	±1.3	25	1
KTY82-250	−55 to +150	1900 to 2100	25	±6.3	25	1
KTY82-251	−55 to +150	1900 to 2000	25	±3.2	25	1
KTY82-252	−55 to +150	2000 to 2100	25	±3.2	25	1
KTY83-110	−55 to +175	990 to 1010	25	±1.3	25	1
KTY83-120	−55 to +175	980 to 1020	25	±2.6	25	1
KTY83-121	−55 to +175	980 to 1000	25	±1.3	25	1
KTY83-122	−55 to +175	1000 to 1020	25	±1.3	25	1
KTY83-150	−55 to +175	950 to 1050	25	±6.6	25	1
KTY83-151	−55 to +175	950 to 1000	25	±3.3	25	1
KTY83-152	−55 to +175	1000 to 1050	25	±3.3	25	1
KTY84-130	−40 to +300	970 to 1030	100	±4.8	100	2
KTY84-150	−40 to +300	950 to 1050	100	±8.0	100	2
KTY84-151	−40 to +300	950 to 1000	100	±4.0	100	2
KTY84-152	−40 to +300	1000 to 1050	100	±4.0	100	2

TEMPERATURE SENSORS *(continued)*

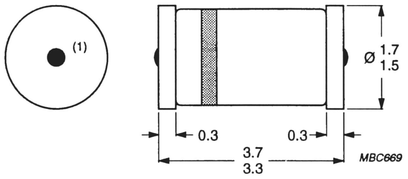
type number	temperature range	resistance R	at T_{amb}	sensor accuracy	at T_{amb}	sensor current
	(°C)	(Ω)	(°C)	(°C)	(°C)	(mA)
KTY85-110	−40 to +125	990 to 1010	25	±1.3	25	1
KTY85-120	−40 to +125	980 to 1020	25	±2.6	25	1
KTY85-121	−40 to +125	980 to 1000	25	±1.3	25	1
KTY85-122	−40 to +125	1000 to 1020	25	±1.3	25	1
KTY85-150	−40 to +125	950 to 1050	25	±6.6	25	1
KTY85-151	−40 to +125	950 to 1000	25	±3.3	25	1
KTY85-152	−40 to +125	1000 to 1050	25	±3.3	25	1
KTY86-205	−40 to +150	1990 to 2010	25	±0.7	25	0.1
KTY87-205	−40 to +125	1990 to 2010	25	±0.7	25	0.1
		3327 to 3361	100	±0.8	100	0.1

PACKAGES FOR SEMICONDUCTOR SENSORS

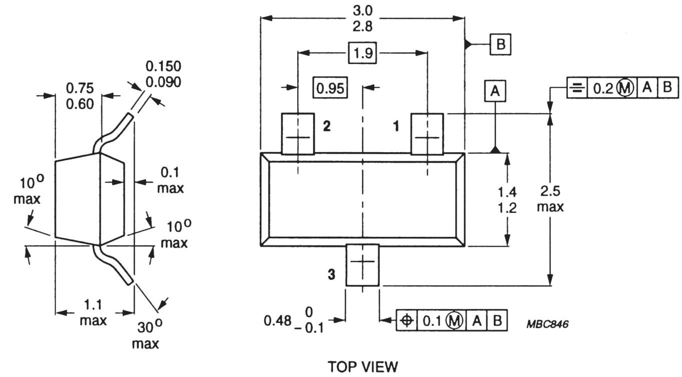
SOD80


Ø 1.7
1.5
0.3
0.3
3.7
3.3
MBA388 - 1

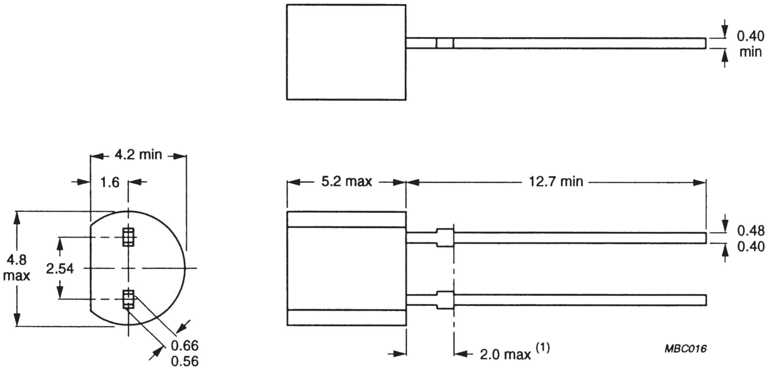
SOD80(KTY85)


(1)
Ø 1.7
1.5
0.3
0.3
3.7
3.3
MBC669

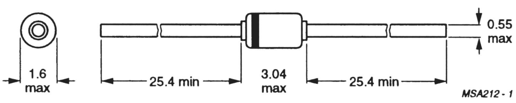
SOD23


0.150
0.090
0.75
0.60
10° max
0.1 max
10° max
1.1 max
30° max
3.0
2.8
1.9
0.95
B
A
0.2 M A B
2
1
1.4
1.2
2.5 max
3
0.48 0 −0.1
0.1 M A B
MBC846
TOP VIEW

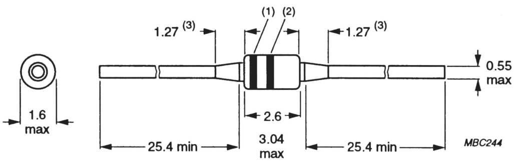
SOD70


0.40 min
4.2 min
1.6
4.8 max
2.54
0.66
0.56
5.2 max
12.7 min
0.48
0.40
2.0 max (1)
MBC016

SOD68

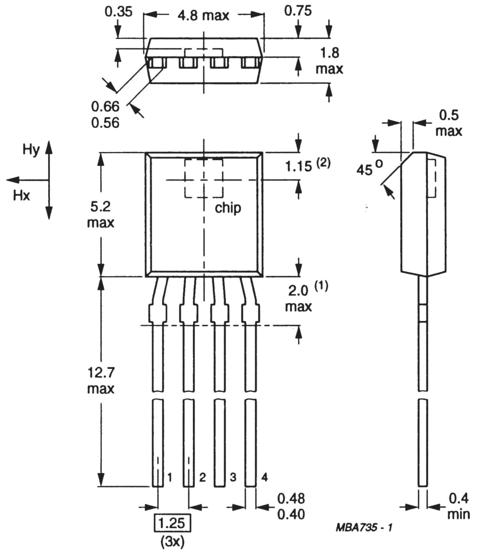

0.55 max
1.6 max
25.4 min
3.04 max
25.4 min
MSA212 - 1

DO-34

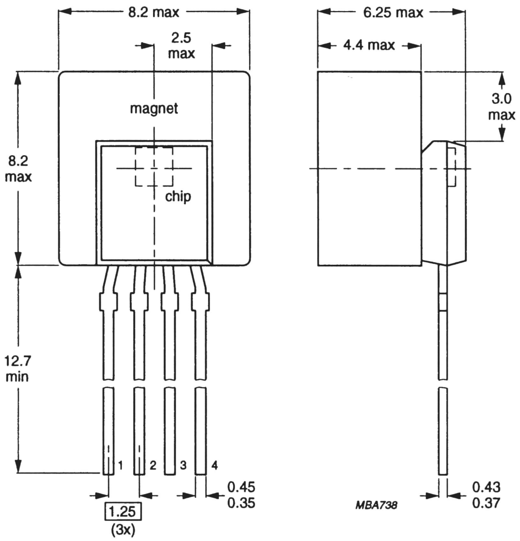

(1) (2)
1.27 (3)
1.27 (3)
0.55 max
1.6 max
2.6
25.4 min
3.04 max
25.4 min
MBC244

PACKAGES FOR SEMICONDUCTOR SENSORS

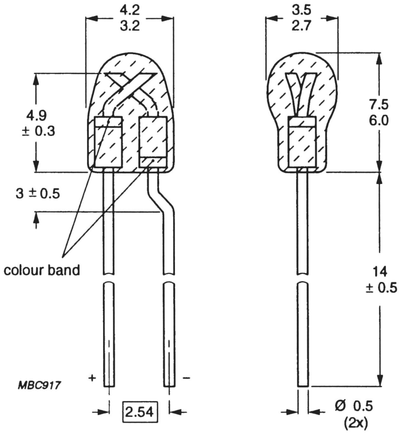
SOT195


0.35
4.8 max
0.75
1.8
max
0.66
0.56
Hy
Hx
1.15 (2)
5.2
max
chip
2.0 (1)
max
12.7
max
1
2
3
4
0.48
0.40
1.25
(3x)
0.5
max
45°
0.4
min
MBA735 - 1

SOT195(A)


8.2 max
2.5
max
magnet
8.2
max
chip
12.7
min
1
2
3
4
0.45
0.35
1.25
(3x)
6.25 max
4.4 max
3.0
max
MBA738
0.43
0.37

SOD103


4.2
3.2
4.9
± 0.3
3 ± 0.5
colour band
MBC917
+
−
2.54
3.5
2.7
7.5
6.0
14
± 0.5
Ø 0.5
(2x)

MSB119

North American Sales Offices, Representatives and Distributors

PHILIPS SEMICONDUCTORS
811 East Arques Avenue
P.O. Box 3409
Sunnyvale, CA 94088-3409

ALABAMA
Huntsville
Philips Semiconductors
Phone: (205) 464-0111
(205) 464-9101

Elcom, Inc.
Phone: (205) 830-4001

ARIZONA
Scottsdale
Thom Luke Sales, Inc.
Phone: (602) 451-5400

Tempe
Philips Semiconductors
Phone: (602) 820-2225

CALIFORNIA
Calabasas
Philips Semiconductors
Phone: (818) 880-6304

Irvine
Philips Semiconductors
Phone: (714) 453-0770

Loomis
B.A.E. Sales, Inc.
Phone: (916) 652-6777

San Diego
Philips Semiconductors
Phone: (619) 560-0242

San Jose
B.A.E. Sales, Inc.
Phone: (408) 452-8133

Sunnyvale
Philips Semiconductors
Phone: (408) 991-3737

COLORADO
Englewood
Philips Semiconductors
Phone: (303) 792-9011

Thom Luke Sales, Inc.
Phone: (303) 649-9717

CONNECTICUT
Wallingford
JEBCO
Phone: (203) 265-1318

FLORIDA
Clearwater
Conley and Assoc., Inc.
Phone: (813) 572-8895

Oviedo
Conley and Assoc., Inc.
Phone: (407) 365-3283

GEORGIA
Norcross
Elcom, Inc.
Phone: (404) 447-8200

ILLINOIS
Itasca
Philips Semiconductors
Phone: (708) 250-0050

Schaumburg
Micro-Tex, Inc.
Phone: (708) 885-8200

INDIANA
Indianapolis
Mohrfield Marketing, Inc.
Phone: (317) 546-6969

Kokomo
Philips Semiconductors
Phone: (317) 459-5355

MARYLAND
Columbia
Third Wave Solutions, Inc.
Phone: (410) 290-5990

MASSACHUSETTS
Chelmsford
JEBCO
Phone: (508) 256-5800

Westford
Philips Semiconductors
Phone: (508) 692-6211

MICHIGAN
Novi
Philips Semiconductors
Phone: (810) 347-1700

Mohrfield Marketing, Inc.
Phone: (810) 348-5799

MINNESOTA
Bloomington
High Technology Sales
Phone: (612) 844-9933

MISSOURI
Bridgeton
Centech, Inc.
Phone: (314) 291-4230

Raytown
Centech, Inc.
Phone: (816) 358-8100

NEW JERSEY
Toms River
Philips Semiconductors
Phone: (908) 505-1200
(908) 240-1479

NEW YORK
Ithaca
Bob Dean, Inc.
Phone: (607) 257-0007

Rockville Centre
S-J Associates
Phone: (516) 536-4242

Wappingers Falls
Philips Semiconductors
Phone: (914) 297-4074

Bob Dean, Inc.
Phone: (914) 297-6406

NORTH CAROLINA
Charlotte
Elcom, Inc.
Phone: (704) 543-1229

Greensboro
Elcom, Inc.
Phone: (919) 273-8887

Matthews
Elcom, Inc.
Phone: (704) 847-4323

OHIO
Columbus
S-J Associates, Inc.
Phone: (614) 885-6700

Kettering
S-J Associates, Inc.
Phone: (513) 298-7322

Solon
S-J Associates, Inc.
Phone: (216) 349-2700

OREGON
Beaverton
Philips Semiconductors
Phone: (503) 627-0110

Western Technical Sales
Phone: (503) 644-8860

PENNSYLVANIA
Erie
S-J Associates, Inc.
Phone: (216) 888-7004

Hatboro
Delta Technical Sales, Inc.
Phone: (215) 957-0600

Pittsburgh
S-J Associates, Inc.
Phone: (216) 349-2700

SOUTH CAROLINA
Greenville
Elcom, Inc.
Phone: (803) 370-9119

TENNESSEE
Dandridge
Philips Semiconductors
Phone: (615) 397-5053

TEXAS
Austin
Philips Semiconductors
Phone: (512) 339-9945

Synergistic Sales, Inc.
Phone: (512) 346-2122

Houston
Philips Semiconductors
Phone: (713) 999-1316

Synergistic Sales, Inc.
Phone: (713) 937-1990

Richardson
Philips Semiconductors
Phone: (214) 644-1610
(214) 705-9555

Synergistic Sales, Inc.
Phone: (214) 644-3500

UTAH
Salt Lake City
Electrodyne
Phone: (801) 264-8050

WASHINGTON
Bellevue
Western Technical Sales
Phone: (206) 641-3900

Spokane
Western Technical Sales
Phone: (509) 922-7600

WISCONSIN
Waukesha
Micro-Tex, Inc.
Phone: (414) 542-5352

CANADA PHILIPS SEMICONDUCTORS CANADA, LTD.
Calgary, Alberta
Philips Semiconductors/
Components, Inc.
Phone: (403) 293-5969

Tech-Trek, Ltd.
Phone: (403) 241-1719

Kanata, Ontario
Philips Semiconductors
Phone: (613) 599-8720

Tech-Trek, Ltd.
Phone: (613) 599-8787

Montreal, Quebec
Philips Semiconductors/
Components, Inc.
Phone: (514) 424-7320

Mississauga, Ontario
Tech-Trek, Ltd.
Phone: (416) 238-0366

Richmond, B.C.
Tech-Trek, Ltd.
Phone: (604) 276-8735

Scarborough, Ontario
Philips Semiconductors/
Components, Ltd.
(416) 292-5161

Ville St. Laurent, Quebec
Tech-Trek, Ltd.
Phone: (514) 337-7540

MEXICO
Anzures Section
Philips Components
Phone: (800) 234-7381

El Paso, TX
Philips Components
Phone: (915) 775-4020

PUERTO RICO
Caguas
Mectron Group
Phone: (809) 746-3522

DISTRIBUTORS

Contact one of our local distributors:

Allied Electronics
Anthem Electronics
Arrow/Schweber Electronics
Future Electronics (Canada only)
Hamilton Hallmark
Marshall Industries
Newark Electronics
Richardson Electronics
Wyle Electronics
Zeus Electronics

07/06/95

©Philips Electronics North America Corporation 1995 Printed in U.S.A.

Philips Semiconductors — a worldwide company

Argentina: IEROD, Av. Juramento 1992 – 14.b, (1428) BUENOS AIRES,
Tel. (541)786 7633, Fax. (541)786 9367

Australia: 34 Waterloo Road, NORTH RYDE, NSW 2113,
Tel. (02)805 4455, Fax. (02)805 4466

Austria: Triester Str. 64, A-1101 WIEN, P.O. Box 213,
Tel. (01)60 101-1236, Fax. (01)60 101-1211

Belgium: Postbus 90050, 5600 PB EINDHOVEN, The Netherlands,
Tel. (31)40-2783749, Fax. (31)40-2788399

Brazil: Rua do Rocio 220 – 5th Floor, Suite 51,
CEP: 04552-903 SÃO PAULO-SP, Brazil
P.O. Box 7383 (01064-970),
Tel. (011)821-2333, Fax. (011)829-1849

Canada: PHILIPS SEMICONDUCTORS/COMPONENTS:
Tel. (800) 234-7381, Fax. (708) 296-8556

Chile: Av. Santa Maria 0760, SANTIAGO,
Tel. (02)773 816, Fax. (02)777 6730

China/Hong Kong: 501 Hong Kong Industrial Technology Centre,
72 Tat Chee Avenue, Kowloon Tong, HONG KONG,
Tel. (852)2319 7888, Fax. (852)2319 7700

Colombia: IPRELENSO LTDA, Carrera 21 No. 56-17, 77621 BOGOTA,
Tel. (571)249 7624/(571)217 4609, Fax. (571)217 4549

Denmark: Prags Boulevard 80, PB 1919, DK-2300 COPENHAGEN S,
Tel. (45)32 88 26 36, Fax. (45)31 57 19 49

Finland: Sinikalliontie 3, FIN-02630 ESPOO,
Tel. (358)0-615 800, Fax. (358)0-61580 920

France: 4 Rue du Port-aux-Vins, BP317, 92156 SURESNES Cedex,
Tel. (01)4099 6161, Fax. (01)4099 6427

Germany: P.O. Box 10 51 40, 20035 HAMBURG,
Tel. (040)23 53 60, Fax. (040)23 53 63 00

Greece: No. 15, 25th March Street, GR 17778 TAVROS,
Tel. (01)4894 339/4894 911, Fax. (01)4814 240

India: Philips INDIA Ltd., Shivsagar Estate, A Block,
Dr. Annie Besant Rd., Worli, BOMBAY 400 018,
Tel. (022)4938 541, Fax. (022)4938 722

Indonesia: Philips House, Jalan H.R. Rasuna Said Kav. 3-4,
P.O. Box 4252, JAKARTA 12950,
Tel. (021)5201 122, Fax. (021)5205 189

Ireland: Newstead, Clonskeagh, DUBLIN 14,
Tel. (01)7640 000, Fax. (01)7640 200

Italy: PHILIPS SEMICONDUCTORS S.r.l.,
Piazza IV Novembre 3, 20124 MILANO,
Tel. (0039)2 6752 2531, Fax. (0039)2 6752 2557

Japan: Philips Bldg. 13-37, Kohnan 2-chome, Minato-ku, TOKYO 108,
Tel. (03)3740 5130, Fax. (03)3740 5077

Korea: Philips House, 260-199 Itaewon-dong, Yongsan-ku, SEOUL,
Tel. (02)709-1412, Fax. (02)709-1415

Malaysia: No. 76 Jalan Universiti, 46200 PETALING JAYA, SELANGOR,
Tel. (03)750 5214, Fax. (03)757 4880

Mexico: 5900 Gateway East, Suite 200, EL PASO, TX 79905,
Tel. 9-5 (800)234-7381, Fax. (708)296-8556

Netherlands: Postbus 90050, 5600 PB EINDHOVEN, Bldg. VB,
Tel. (040)2783749, Fax. (040)2788399

New Zealand: 2 Wagener Place, C.P.O. Box 1041, AUCKLAND,
Tel. (09)849-4160, Fax. (09)849-7811

Norway: Box 1, Manglerud 0612, OSLO,
Tel. (022)74 8000, Fax. (022)74 8341

Pakistan: Philips Electrical Industries of Pakistan Ltd.,
Exchange Bldg. ST-2/A, Block 9, KDA Scheme 5, Clifton,
KARACHI 75600, Tel. (021)587 4641-49, Fax. (021)577035/5874546

Philippines: PHILIPS SEMICONDUCTORS PHILIPPINES Inc.,
106 Valero St. Salcedo Village, P.O. Box 2108 MCC, MAKATI,
Metro MANILA, Tel. (63)2 816 6380, Fax. (63)2 817 3474

Portugal: PHILIPS PORTUGUESA, S.A.,
Rua dr. AntÓnio Loureiro Borges 5, Arquiparque – Miraflores,
Apartado 300, 2795 LINDA-A-VELHA,
Tel. (01)4163160/4163333, Fax. (01)4163174/4163366

Singapore: Lorong 1, Toa Payoh, SINGAPORE 1231,
Tel. (65)350 2000, Fax. (65)251 6500

South Africa: S.A. PHILIPS Pty Ltd.,
195-215 Main Road Martindale, 2092 JOHANNESBURG,
P.O. Box 7430, Johannesburg 2000,
Tel. (011)470-5911, Fax. (011)470-5494

Spain: Balmes 22, 08007 BARCELONA,
Tel. (03)301 6312, Fax. (03)301 42 43

Sweden: Kottbygatan 7, Akalla. S-164 85 STOCKHOLM,
Tel. (0)8-632 2000, Fax. (0)8-632 2745

Switzerland: Allmendstrasse 140, CH-8027 ZÜRICH,
Tel. (01)488 2211, Fax. (01)481 7730

Taiwan: PHILIPS TAIWAN Ltd., 23-30F, 66, Chung Hsiao West Road,
Sec. 1. Taipeh, Taiwan ROC, P.O. Box 22978, TAIPEI 100,
Tel. (886) 2 382 4443, Fax. (886) 2 382 4444

Thailand: PHILIPS ELECTRONICS (THAILAND) Ltd.,
209/2 Sanpavuth-Bangna Road Prakanong,
BANGKOK 10260, Thailand
Tel. (66) 2 745-4090, Fax. (66) 2 398-0793

Turkey: Talatpasa Cad. No. 5, 80640 GÜLTEPE/ISTANBUL,
Tel. (0212)279 27 70, Fax. (0212)282 67 07

Ukraine: Philips UKRAINE, 2A Akademika Koroleva str., Office 165,
252148 KIEV, Tel. 380-44-4760297, Fax. 380-44-4766991

United Kingdom: Philips Semiconductors Ltd.,
276 Bath Road, Hayes, MIDDLESEX UB3 5BX
Tel. (0181)730-5000, Fax. (0181)754-8421

United States: 811 East Arques Avenue, SUNNYVALE, CA 94088-3409,
Tel. (800)234-7381, Fax. (708)296-8556

Uruguay: Coronel Mora 433, MONTEVIDEO,
Tel. (02)70-4044, Fax (02)92 0601

Internet: http://www.semiconductors.philips.com/ps/

For all other countries apply to: Philips Semiconductors,
International Marketing and Sales, Building BE-p,
P.O. Box 218, 5600 MD, EINDHOVEN, The Netherlands,
Telex 35000 phtcnl, Fax +31-40-2724825

SCD47 ©Philips Electronics N.V. 1995

All rights are reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner.

The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or industrial or intellectual property rights.

Printed in the USA

5309X/893031/115M/CR2/pp560 Date of release: 11-95

Document order number: 9397 750 00433

Philips
Semiconductors

PHILIPS